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THE HUMAN MIND:

A DISCOURSE ON ITS ACQUIREMENTS AND HISTORY.

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BY S. W. FULLOM,
AUTHOR OF "THE MARVELS OF SCIENCE," ETC. ETC.

"The knowledge of man is as the waters—some descending from above, and some springing from beneath: the one informed by the light of nature, the other inspired by divine revelation."—BACON.

IN TWO VOLUMES.

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God
230
Ful./Hym

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THE HUMAN MIND.

BOOK THE SECOND.—LATTER TIMES.

I.

CHRISTIANITY AND THE CHURCH.

THE annals of antiquity seem to be fitly closed by a view, necessarily concise, of the different opinions prevailing among mankind in reference to religion, at the period approaching the Christian era. It is thus made apparent that the human mind was everywhere bending its thoughts on this momentous subject, and seeking to repudiate its errors. A spirit of inquiry had arisen—inquiry which, in some illustrious cases, led indeed to atheism, but which was nevertheless essential to reform, progress, and enlightenment. Reason undermined the crumbling fabric of pagan superstition, before it was demolished by Revelation; and thus the

way was prepared, the paths made straight, for the coming Messiah.

But whatever the philosophers of Greece and Rome might teach, in secret assemblies, of the existence of a Supreme Ruler of the universe, of the immortality of the soul, the obligations of morality, and the responsibility of man for his actions, their doctrines could afford little real comfort or satisfaction either to themselves or their disciples; for, beyond their own persuasions, they could adduce no evidence of their authority. With them, all was speculation and conjecture; and in their search for truth, they could scarcely find a resting-place for their foot. They looked round on the face of nature, and recognised the work of an Almighty hand, guided by infinite wisdom and benevolence: hence they derived their idea of an Unknown God. They looked in upon themselves and traced the operation of a divine intelligence, which, united with the body, was yet abstract and independent, endowed with separate faculties, and constantly asserting a separate existence: from this they deduced the immortality of the soul. But reason, so prompt to theorize, is infirm in practice; and, on the first breath of trial, invariably melts away. It craves for some tangible evidence, for proof, for an out-

ward visible sign, which will dispel all doubt. The speculations of philosophers may beguile our hours of indolence and ease, but they cannot be carried into the turmoil of life, to buoy us up on its troubled waters. It is impossible that religion could be sustained by conjecture, since it demands from its votaries implicit confidence; and this could only be permanently yielded by delusion or conviction, by superstition or faith.

Nor does it militate against the argument, that the philosophic theists, while basing their belief on the mechanism of nature, had, in reality, found the theistic doctrine already existing. In our preceding chapter, we have seen that it had been established from the earliest times in Egypt and the East; and though obscured—though disguised by subdivision, by types, and by symbols—the great idea remained. Socrates dug it up from the root of the Greek mythology. In Egypt it was associated with the Triad, and the mystic Logos, which Plato, adopting as his own, communicated to his disciples. But, in moments of perplexity, this fact must have tended to shake rather than confirm the belief of the theists; for what they might accept on the testimony of nature, they would reject on that of mythology. Consequently, there could have

been, in such tenets, no element of authority or conviction.

The distraction of ancient sages will appear the less surprising, when we consider that a philosophic historian of modern times, trained in the full light of revealed religion, has, in his conceptions of the Gospel, been infected with these identical doubts by the selfsame facts; and tracing the shadows of divine truth in the dark mythology of Egypt, has drawn from such a source the inspiration of Christianity. So fallible is human reason, that its highest types may betray, on some points, the strangest perversion; and the logical powers of Gibbon could distort the testimony of immemorial tradition into an insinuation of imposture.[1] It is very true that Christianity is no new religion; for the Creator and Father of mankind, incapable of change, must have been ever the same. Gibbon may confound the *Word* of the Evangelist with the Egyptian *Logos;* but the anterior promulgation of the latter does not ignore the former; for we are expressly told that the Word was 'in the *beginning.*' We know, indeed, that it was revealed to Adam on his expulsion from Eden,[2] promised to Abraham,[3] announced to the heathen

[1] 'Decline and Fall,' ii. 395.

[2] Gen. iii. 15.

[3] Gen. xvii. 18.

by Balaam,[4] and by Moses to the Hebrews. Nor is it only in the Egyptian Osiris that we behold a gleam of our Redeemer in the night of antiquity. He is more distinctly prefigured by the prophets, who foretell every scene, every incident of his life, with an accuracy that, did we not derive their writings from the Jews, we might suppose to be dictated by the event. He is acknowledged by Job, when he affirms that his Redeemer liveth; and his divinity is proclaimed by David, when, in language quoted by our Saviour himself, he declares 'The Lord said unto my Lord, Sit thou on my right hand till I make thine enemies thy footstool.'

Moses made, indeed, no distinct announcement of the Trinity, possibly to guard against the tendency of the Hebrews to polytheism, to which, as there seems reasonable ground to conclude, it had already been perverted by the Egyptians; and, secondly, because he looked forward to a more complete revelation of the Godhead by the Messiah. But the ceremonial of the Jewish worship typified the mysterious doctrine, and it appears to be revealed in the visit paid to Abraham by the 'THREE MEN,' who, when speaking, are described as 'THE Lord.' Again, in the account of the Creation, we are

[4] Numb. xxiv. 17.

first told that 'in the beginning God created the heavens and the earth;' we next learn that 'the SPIRIT of God moved upon the waters;' and, lastly, we are informed that 'God said, Let US make man in OUR own image.' Connecting these passages with the prediction of the future Messiah, we have here each person of the Trinity, namely, God, the Spirit of God, and the Son—separately mentioned by Moses, while in the '*three* men' described as '*the* Lord' in the visit to Abraham, both the Trinity and Unity are represented.

But although Christianity exhibited no novelty of doctrine—because its doctrines were eternal and immutable, and because, moreover, it was but the perfect fulfilment of what had been prophesied and preached from the creation of the world, its precepts—or, to use a philosophic term, its ethics—were altogether new: new, that is, to man, though the sentiments they embraced were deeply implanted in the breast of nature. Hitherto the highest flight of philosophy had been unable to soar above materialism, and even its morality was addressed to the senses, as something that, habitually cultivated, afforded pleasure in the practice; but now the soul was stripped of its mantle of flesh, and, while instructed in its obligations and duties, taught to consider itself a

spirit, made acquainted with its origin, destiny, and nature. Philosophers had recognised the beneficence of the Deity in the mechanism of nature: now it was revealed, with even greater distinctness, in a beautiful code of injunctions, which bore on their face the impress of divinity. We were enjoined to forgive as we hoped to be forgiven; to bless them that cursed us, and pray for them which despitefully used and persecuted us; to make feasts, not for the rich who could return the favour, but for the poor, who could give nothing back; and, summing up all in a word, to do unto others as we would they should do unto us. The body was to be kept in subjection; the passions to be resisted and overcome; the soul was to be elevated, trained for its future beatification, by the constant practice of meekness, forbearance, patience, self-denial, and charity. Yet in all this, we were, unlike the philosophic moralists, to take no pride, but to remember, in our highest elevation, the frailty and infirmity of nature, to rely only on the spiritual support of a divine Father; and to place our dependence, not on our own strength or merits, but on the compassion, the intercession, and the passion of our Redeemer.

The period was highly favourable for the propagation of such a creed. 'All the world,'

to use the expressive phrase of St. Luke, was under the dominion of 'Cæsar Augustus:' for the first time since the foundation of society, mankind enjoyed universal peace; hence there was leisure for mental pursuits of an abstract character, which, guided by the Greek philosophers, led to religious speculations, and everywhere diffused a feeling that the existing systems were false, incredible, and absurd. But, though the heathen gods were repudiated, no one could originate a new faith that would serve as an anchor to the distracted mind; and it was acknowledged that the time had arrived when, if really existing, the Supreme Being should communicate directly to His creatures the knowledge so earnestly sought.

Such were the circumstances which ushered in the appearance of a Teacher, whose advent had been awaited for four thousand years. The doctrines he promulgated were just those which, in the prevailing temper of society, were likely to attract attention, because they addressed themselves to those instincts which were universally awakened, but which none had been able to satisfy. So true is this, indeed —not only in reference to a particular period, but as regards all time—that Christians need desire no better testimony to the truth of

their religion than its application to human wants.

If, then, we except the miracles performed by our Lord and the Apostles, and which appear to have been prompted as much by compassion for individual infirmity, as for the purpose of exhibiting supernatural power—for it must be borne in mind that, when demanded as a proof of authority, a sign was refused—we see that in this, as on every occasion, the Great Disposer left the end in view to be effected by natural means, arising from the course of events. It is in such operations, indeed, that we can trace most clearly the beautiful scheme of His providence, as if overruling, rather than originating, the course of events, and directing all things to a divine object. Such operations and such effects we have heretofore had occasion to remark, and they will present themselves to us again and again, as we follow the developments of the human mind.

The moral doctrines of Christianity involved principles foreign to all previous experience. Not only were the precepts themselves new, carrying self-discipline and self-denial to the highest point, but they produced effects on society, equal to their influence on individuals. Every convert became an apostle, eager to

spread the faith, and communicate to others the knowledge of salvation. This, indeed, was enjoined as a duty, and was a special attribute of Christianity, not common either to paganism or the Jews; for the Mosaic dispensation rather discountenanced propagandism, and it was viewed with indifference by the heathen. But it proved a most effective instrument in the hands of the Christians, and, while it continually enlarged the circle of believers, kindled at the same time that sustaining zeal which has ever since animated the Church.

Another pervading influence among the primitive Christians was mutual dependence, arising from reciprocal offices of kindness and charity, 'the very bond of brotherhood,' which linked them indissolubly together. The spectacle of a religion exercising such a benignant sway was entirely new, and naturally excited admiration, in proportion as it attracted attention. The cold sophisms of philosophy could advance no such example of their salutary tendency, and, in truth, embraced no such aim. Christianity alone, exhibiting its divine origin in its principles, maintained the sacred obligations of charity as a fundamental doctrine, defining them by a line so broad, that even poverty afforded no excuse for their infraction; since the act was measured by

the ability, not the extent; and a cup of cold water given to a disciple, two farthings cast into the treasury, were, if proportioned to the means of the donor, if prompted by a genuine feeling of benevolence, held as acceptable to God as the most prodigal bounty.

A third distinguishing characteristic of Christianity, eminently instrumental in its propagation, was its ignorement of social distinctions, although, guarding against abuse, it restricted the doctrine to a religious sense, enjoining obedience to lawful authorities, as 'appointed by God,' and commanding that men should 'render unto Cæsar the things which are Cæsar's, and unto God the things which are God's.' It was the Deity who was no respecter of persons; but his creature man, as a necessity of his temporal condition—for the preservation of society, and the terror of evil-doers—must reverence 'the powers that be.' The slave entered the house of prayer, and shook off his bonds: he was invested with the functions of a priest, and spoke in the accents of authority; but, passing from the sacred precincts, he became obedient to his master. Thus all ranks were embraced by the Christian polity, but special attractions and consolations were presented to the poor. They were taught, instead of repining at their lot, to consider poverty

an advantage, inasmuch as their heavenly Master had pronounced the poor to be 'blessed.' They were led to consider the empty pleasures of life as unworthy of their regard, since they might be purchased by the endless misery of eternity; and they were brought to look for the period when the unequal allotments of the present world would be vindicated, as a divine arrangement, by the rigorous justice of the world to come. On the other hand, great responsibility was attached to wealth; those to whom much was given, were, for the first time, warned that from them much would be required; and the dread announcement was made that 'hardly should a rich man enter the kingdom of heaven.'

Under ordinary circumstances, doctrines so novel might have produced no serious impression; but, at this period, they carried peculiar weight, as an opinion universally prevailed that something prodigious was about to happen, and, on the part of the Christians, it was believed that the end of the world was at hand. Thus the poor were consoled under the severest trials, regarding them as of little import, as of brief duration, when compared with the approaching felicity of eternity; while, from the same cause, the rich, as soon as they embraced the new faith, comprehended more vividly

the awful penalties of their condition, and devoted their possessions to the general benefit. All were stimulated to a life of holiness by the terrors of judgment, and the hopes of reward: in the presence of these ideas, mere worldly ambitions were as dross; and when, at any moment, the dome-capped temples, the gorgeous palaces, the great globe itself, might perish and pass away, even existence was little prized.

This belief was doubtless providentially ordained as a means of consolidating Christianity; but if we examine the grounds for it, we shall find that it had no warranty in the Scriptures. On the contrary, the passage on which it is based, when deliberately considered, must receive a totally different interpretation, and we may feel surprise that its obvious meaning is so little understood, and appears to have escaped the notice of commentators. It is unnecessary to adopt the pious conjecture that we should probably obtain another reading of the passage, if the original Hebrew Gospel of St. Matthew were still in existence; for in that case, we may believe that the same Power that preserved to us the books of Moses, through all the vicissitudes of religions and empires, for a period of four thousand years, would not have suffered it to disappear; and they who advance

such an argument forget that, to admit the possibility of a doubtful passage, is to impugn the whole narrative. Happily there is no need for any sophistical interpretation in this instance. Let the words of the Redeemer be carefully weighed, and it will be seen that his discourse embraces two prophecies with a distinct period assigned to each. Speaking of the destruction of Jerusalem, He declares that the existing generation 'shall not pass away till all these things be fulfilled;' but referring to the Last Judgment, he says, 'But of that day and hour knoweth no man, no, not the angels of heaven, but my Father only.' And it is previously stated that before the end arrives, the Gospel must first be preached through the whole world—a result which is still far from being accomplished.

Each of the prevailing influences contributed to strengthen the organization of the Church, which was in itself compact, and admirably adapted to its mission. In the first place, there was not, as in the old religions, any exclusive priesthood, but all were eligible for the priestly office, which was elective, and the priest was chosen by the congregation from its own number, by its own act and authority. The distinction of clergy and laity was an invention

of later times, when altered circumstances, imposing on the priests more onerous duties, and rendering it impossible to combine with them a secular employment, called for new arrangements. But in the primitive Church each believer might be a priest, as he was taught, on the authority of St. Paul, to consider his body a temple, in which he was daily to offer to God the sacrifice of a blameless life. The first officers elected under the Apostles were *deacons*, who, after being nominated by the congregation, were formally ordained to their functions, being set before the Apostles, and when they had prayed, they laid their hands on them.[5] As the circle of the Church enlarged, it was found necessary to create a new order, who were called Bishops, and of these, Timothy, the friend of St. Paul, was one of the first. Their ordination embraced the same ceremony of imposition of hands, which has been retained in the Church to this day, and, indeed, is everywhere admitted to be of Apostolic origin.

The institution of bishops gave each congregation a separate head, who, in course of time, was looked upon as a temporal, as well as spiritual chief, and, while he directed the affairs of the Church, exercised over his flock all the sway

[5] Acts vi. 6.

of a magistrate. Under such an administration every Church became an independent community; but the temper of the times, the feeling of mutual relation and dependence, and, what could not be overlooked, the example of the Apostles, dictated a system of correspondence and concert, which brought the numerous scattered bodies into the close union of a federal republic. Other elements of amalgamation soon appeared. In the second century, small dependent flocks, the result of local missions, grew up in the vicinity of towns and cities, and placed themselves under the pastoral care of the nearest Bishop, who thus became the chief of a diocese.[6] The close of the second century witnessed the convocation of synods, composed of representatives of different congregations, assembled, by common consent, and with supreme authority, to regulate the internal administration of the Church.[7] Thus we see that the Christians had, in fact, become, in their organization, a great political body, a league, a separate and distinct community, kernelled in the decaying Roman empire, and having, besides its spiritual pastors and teachers, magistrates, rulers, and a Senate, all animated by a fervent devotion and zeal, and able to command from their flock any amount

[6] Plauk's 'Geschichte,' 90. [7] Ibid.

of revenue that the services of religion might require.

Such an organization could not long exist, and spread and flourish, without exciting the jealousy, and even the fears, of the Roman authorities; and hence arose those terrible persecutions to which the early Church was subjected, though, no doubt, they must be also attributed to the hostility of the Pagan priests. Gibbon, indeed, acquits the latter of any part in the measures of repression, and contends that they were always in favour of toleration; but of this, which is mere supposition, he can adduce no proof, and, in fact, the presumptive evidence is strong on the other side; for we cannot forget that it was they who silenced Plato, who forced Pythagoras to resort to secret meetings, and who condemned Socrates to death. 'It is difficult,' says Plato, 'to attain, and perilous to promulgate, the knowledge of the true God.'[8] The younger Pliny, in his celebrated epistle to the Emperor Trajan, makes it his chief ground of complaint that the altars of the gods are deserted, and that the sacred victims obtain no purchasers.[9] Here it is manifest that the *animus* of the persecution was a religious one, springing from a fanaticism so deep, that, in the outset, it

[8] 'De Natura Deorum,' i. 275. [9] Epist. x. 97.

could even influence such a character as Pliny. Ultimately, however, he did all in his power to mitigate its horrors, and his epistles, relating what occurred in his own jurisdiction, are among the most valuable testimonies to the endurance of the martyrs.

Persecutions proved an advantage, rather than a discouragement, to the Church; for they tended to bind its members closer together, to check the laxity of morals and discipline which is the growth of uninterrupted prosperity, to drive believers into distant and more secure localities, where they propagated the Gospel, and, lastly, to fix the attention more steadily on the Great Day, universally believed to be approaching, when all mankind should be cited to Judgment. It is true, some few 'fell away,' but only to return penitent after a brief apostacy; and, on the other hand, the majority looked with indifference on the termination of a life of trial, which was to be succeeded by eternal felicity, and were even eager to seal their faith with their blood.

As the second century drew to a close, the Church was first divided into Clergy and Laity, a division which had indeed become indispensable, and which has exercised a great and permanent effect on the ministry. About the

same time, we discover traces of synods; and the commencement of the succeeding century was signalised by the foundation of the Papacy, or, rather, the gradual subordination of the Western Church to the authority of the Bishop of Rome. But the papal supremacy encountered firm resistance in the East, where it was never wholly accepted, and, after much contention, the two Churches, like the two empires, rent asunder, one adhering to the Pope, and the other to the Patriarch of Constantinople.

It had been the custom of the primitive Christians to assemble secretly, like the disciples of Plato and Pythagoras, and celebrate worship in some place where, screened from observation, they were not likely to be molested. This was proper and judicious in periods of popular excitement, because it withdrew them from the public gaze, when ostentatious display would have entailed destruction; but it was unwise to preserve the same attitude in times of security, inasmuch as it naturally excited, by an assumption of mystery, a suspicion of unlawful practices. It exposed them, indeed, to the most cruel aspersions, and their clandestine worship was said to be stained by bloody rites, and polluted by fearful crimes. The human

mind is easily influenced by slander, more especially when connected with mystery; and though Christianity continued to spread in a marvellous manner, we cannot doubt that it was in some measure retarded by such reports, which were so calculated to impress the multitude. At the same time, the practice itself, from which they arose, was directly opposed to the command of the Messiah, who had enjoined all things to be done openly, and even proclaimed on the housetops. But we may believe that the impression was greatly counteracted by the behaviour of Christians in public; and it is admitted by pagan writers that their patient endurance of tortures and death for the sake of their religion, and in token of their constancy, excited the sympathy of the populace, and continually won them new adherents.

Through the influence of the Empress Mammæa, the Christians were, in the third century, permitted to consecrate churches; and her son Alexander went so far as to introduce a statue of our Lord, together with an image of Abraham, into his private chapel.[10] For a period of nearly forty years the Christians enjoyed uninterrupted repose, but they then came on the evil

[10] 'Augustan Hist.,' 123.

days of Diocletian, and persecution was again let loose. The tribulations of the Church, however, as far as they were occasioned by external influences, now drew to a close; and the accession of Constantine was followed, A.D. 337, by the conversion of the Emperor, and the public establishment of Christianity.

From this time—from the date of Constantine's edict for the observance of Sunday—the Church became an imperial institution; for the faint revival of paganism by Julian the Apostate, A.D. 361, was of only momentary duration, terminating in 363, on the accession of Jovian, who, as he assumed the purple, proclaimed the restoration of Christianity. For some time, however, paganism was suffered to maintain a lingering existence—silently tolerated, though publicly discountenanced, till in the reign of Theodosius, A.D. 390, active measures were taken for its suppression, and in the year 420 it was completely extirpated.

In this glance at the outward growth of the Church, we have purposely avoided allusion to the troubles which arose within its limits, and which, indeed, strikingly exhibit the character of the human mind, when not subjected to arbitrary control. Nothing so forcibly attests the superiority of man over other animals as the

diversity of his opinions, elicited by subjects which, being out of the range of mathematical demonstration, are purely speculative, and, consequently, could only be viewed in the same light by a strictly mechanical process, derived from instinct. But the faculties of the understanding are so various, so diversified, so independent in their action on individuals, that it is difficult to bring two minds, operating apart from each other, to precisely the same conclusions on any one question; and on nothing will they manifest such dissimilarity as on points of doctrine, not defined by incontestable authority. We recognise in this fact a beautiful attribute of the human intellect, displaying the exquisite mechanism of that masterpiece of the Creator, the reflection, as we are told, of His own image—for by discussion the flame of truth is kept alive, and its rays disseminated. Were it possible for us all to fall into the same train of ideas, there would be no inquiry, and, consequently, no discovery; and, apart from secular considerations, faith would become, instead of an exercise, a superstition. Independence of opinion is, therefore, a wise provision of the Deity, designed to insure and enlarge our faculties; and as material nature exhibits infinite variety, so thought, following

the same rule, flows in numberless different channels, carrying everywhere a stream of light, which develops science and fructifies religion.

Yet as all human endowments are susceptible of abuse, it cannot be denied that there are certain conditions of society when perfect freedom of thought cannot be maintained without leading—at least for a season—to serious evils. In an infant community, in times of difficulty or trouble, stability can only be attained by one principle, the principle of unity; and this is incompatible with individual independence. The primitive Church was in the situation of a state surrounded by hostile powers; and the spirit of discussion, arising from the emancipation of mind, threatened internal discord. The same perversity which divided the philosophers of Greece into manifold sects, on some point of morals or discipline, now showed itself in a more virulent form among the Christians; and believers were carried about by every wind of doctrine, without knowing whither it tended. Hence it became necessary to erect some standard of faith, which no one should be permitted to infringe; and Constantine, in 324, assembled at Nicę a council of the Church, which drew up a summary of essential ar-

ticles of belief, forming, with the creed of St. Athanasius, the foundation of the Christian church. Both these creeds are received by the Church of England, though it is remarkable that St. George, the patron saint of England, was an Arian, and a personal enemy of Athanasius, whom he drove into exile, and eventually supplanted in the bishopric of Alexandria.

The two primitive creeds allowed a latitude of belief on all points of doctrine not included in their summary, an example followed by the Church of England, which thus embraces, in one communion, many shades of doctrinal opinion, arising from liberty of conscience. But, in those semi-barbarous times, mind, just liberated from thraldom—just brought out from the darkness of heathenism and stimulated by the philosophy of Greece—would submit to no restraint: it leapt over every barrier, and attempted the most audacious flights. It was found useless to set a bound, when discussion was still permitted; and finally the Church, to suppress the growing disorders, constituted itself the sole expounder of doctrine, and denied the right of private judgment.

The first schism, or, rather, the first marked difference of opinion, among the Christians,

arose with the Ebionites, so called on account of their poverty, but who represented the primitive Church of Jerusalem, founded by our Lord himself, and is said, on the authority of the fathers, to have included for many years members of his family, in the descendants of his brother, St. Jude. Their errors are noticed by St. Paul, and sprang from a too close adhesion to the Mosaic law, which, having observed from youth, they considered not to be abrogated, but modified, by the Christian dispensation, especially clinging to the rite of circumcision. After lingering for nearly a century amidst the ruins of Jerusalem, in the little town of Polla, and in the Roman colony of Ælia Capitolina, erected by Adrian on Mount Sion, they finally disappeared, though not till the controversy they excited had raised up the hostile sect of the Gnostics, who, from merely opposing their Judaizing tenets, came, at last, to deny the authenticity of the Hebrew Testament. The Gnostics attempted to blend Christianity with the fallacies of Greek and Oriental philosophy; and, adopting the principles of Zoroaster, represented the Deity as a mixed Being, disposed alternately to good and evil. They gradually subdivided into numerous sects, of which the most important were the

Basilidians, the Valentinians, the Docetes, the Marcionites, and the Manichæans.[11] The Docetes, trained in the Logos creed of Plato, received the doctrine of the Incarnation of the Word; but retaining the Zoroastic tenet of the eternity of matter, maintained that the Redeemer did not personally die on the cross, but was represented by a phantom, which, deceiving Pilate and the Jews, expired in torments, and, after three days, returned from the grave.[12] As the second century drew to a close, other heresies grew up, and multiplied on every side. The Montanists, who originated in Phrygia, claimed for their sect an hereditary gift of prophecy; the Novatians denied the efficacy of repentance; the Donatists disputed the apostolical succession of all bishops but their own. But perhaps the most insidious, and certainly the most formidable, of the primitive heresies, were those of the Sabellians and Arians, which rejected the doctrine of the Homoousion, or Consubstantiality of the Father and the Son, established by the Council of Nice, A.D. 324—the followers of Arius maintaining that the Son was finite in his beginning, but endless in his duration, created from nothing by the Father, before the creation of worlds, and invested with divine authority, but dependent

[11] Eusebius, i. 4. c. 15. [12] 'Patres Apostol.' ii. 24.

on, and subordinate to, the supreme power of God; while, on the other hand, the Sabellians contended that the Son was but an emanation of the Divine Majesty, and less a person than an attribute.

These conflicting doctrines were diffused over Asia and Africa, but took little root in the West, where the Roman pontiffs, adhering to the Nicene creed, maintained the orthodoxy of Europe. The Latin bishops actively engaged in the task of converting the barbarians; but, in smoothing the way for pagan proselytes, they adopted many new ceremonies, which insensibly became embodied in the ritual. Desiring to avoid matters of a controversial character, we shall not enter into the question of the propriety of these changes; but merely state that they have tended, in the course of ages, to excite much discussion, and have thus exercised a great influence on the human mind.

The first to propagate Christianity among the barbarians was Ulphilas, a descendant of a Cappadocian family, which, in the commencement of the fourth century, had been carried away by a Gothic irruption, and seated in Westphalia. Ulphilas effected the conversion of the Goths, A.D. 360. At the same time he initiated them in literature, by translating the Scriptures

into the Teutonic dialect, and thus composing the first book their language could boast. This ancient volume, which is still in existence, and of which an edition was published at Leipsic in 1836, presents a rudimentary conception of the art of printing, the letters being stamped in silver with hot metal types, on tinted vellum; and is a monument of the genius, as well as the learning of Ulphilas, who is said to have invented the alphabet in which it is written.[13]

The barbarians who swept over the Roman empire in the fifth century, received, as they settled down on its ruins, the Christian rite of baptism, and entered the pale of the Church. The Visigoths and Ostrogoths, the Suevi, the Vandals, and the Burgundians, marching down from every quarter, abjured idolatry, and embraced the true faith. For a time, indeed, their belief was tinctured with Arianism, but this was speedily extracted; and in the Western churches, the Nicene creed became universal. Towards the close of the fifth century, the Merovingian king, Clovis, was converted to the Catholic doctrines by his wife,—the Lombard princess, Clotilda—who, indeed, had herself been brought up in the Arian heresy, but was reclaimed by an orthodox bishop. Christianity had been

[13] Niebuhr's Lectures, iii. 317.

introduced into Britain by the great African prelate, St. Augustin, about sixty years before; and though each race originally formed itself into a national church, all were gradually subjected to the papal authority, as defined and established by Gregory.

Some portion of the missionary conquests may possibly be due to the monks, who now formed an important element of ecclesiastical society. The devotion of the primitive Christians, animated by a holy enthusiasm, shrank from the corruption which pervaded the Roman empire; and, though remaining in the world, they virtually abandoned social life, by shunning its pleasures, and, when practicable, its pursuits. Paganism had established its dominion over the human mind, by associating itself with every act of life, and it was impossible to appear in public, at any spectacle, ceremony, or festivity, without joining in an idolatrous rite. This circumstance doubtless operated to strengthen Christians in their love of retirement, which again led them to meditate on the pure morality of the Gospel, so opposed to the prevailing manners; and to practise and even refine upon it as a means of preparation for another existence. The first fruits of such a discipline were fasting and abstinence, but other principles

were soon announced, and, as the system spread, some of the fathers discountenanced,[14] while others almost prohibited marriage,[15] though it was included by the Church in its seven sacraments. Temporal prosperity, arising from the suppression of paganism, and the political establishment of Christianity, checked the diffusion of these doctrines, till, at the close of the third century, they burst forth in a new form, and with uncontrollable vigour, leading to the introduction of the monastic institution.

The hermit Paul may have lived about A.D. 290; but the first fraternity of monks appears to have been established by Antony, an Egyptian youth, who, after passing several years in abstinence and solitude, in deserts and among tombs, acquired the friendship of St. Athanasius, and, under his auspices, peopled the Egyptian desert with monks and hermits. Athanasius himself planted the monastic system at Rome, A.D. 341, and it was eagerly received by all classes, who hastened to embrace an ascetic life. With the success which usually attends a new movement, addressed to the piety or the superstition of mankind, it quickly spread over the Roman empire, and within seventy years from its promulgation,

14 'Morale des Pères,' 26.

15 'Bibliothèque Ecclesiastique,' i. 195.

monasteries were established on what were considered the very outskirts of the world, in Ireland, Wales, and the Hebrides.

In the first age of the institution, monastic discipline, being based on the principle of self-mortification, was extremely rigorous, and, among fraternities, compulsory; but monk and nun might still relinquish the profession at pleasure, and return to the bosom of society. Possibly many availed themselves of the licence; for in the year 370 more stringent regulations were prescribed, and the vows, once professed, were made perpetual. Desertion from a monastery or convent became a temporal, as well as ecclesiastical offence, and entailed the severest punishment, while the chief of each establishment was invested with almost sovereign authority, extending to the consciences, as well as the actions, of the inmates.

It is interesting to inquire in what way such a system may have affected the progress of the human mind. We are inclined to think that though it might, under ordinary circumstances, have operated mischievously, in the proportion in which it was repressive, it could not have sensibly influenced society but for certain events, and that these events gave it a decidedly conservative character. The religious enthusiasm,

and, to use a stronger term, the fanaticism which the system introduced, doubtless produced marvellous changes, but their action must have been limited; and it is rash to suppose that they could instantaneously subvert the reason, and even destroy the civilization of the whole human race. Results so vast could only spring from a universal catastrophe, acting everywhere at once and recurring again and again. Such were the barbarian invasions of the Roman empire, now overrunning the east, now desolating the west: at one time ravaging the coasts, and then, as in the case of Genseric, pouring its desolating tide through Rome itself.

The dark ages were the work, not of the monks, but of the barbarians, and arose from the course of events. The monks necessarily partook of the gloom which fell on the human intellect, but they were not its originators; and we may even admit that, while themselves sunk in ignorance, they were instruments, in the hands of providence, for preserving to better times the legacy of ancient lore. The barbarians, indeed, drove the plough over the ruins of civilization, as Adrian had done over the site of Jerusalem; but such scholars as remained took refuge in a monastery, and carried with them their knowledge and books. Thus the monastic

libraries became the archives of literature, where the treasures of antiquity, if buried, were at least preserved: and, in the occasional transcription of these manuscripts, literary taste was kept alive, nourished, and sustained. The same causes drew to the monasteries the various mechanical arts—for those designated *fine*, which so adorned and embellished life, were hopelessly lost. Nor was it long before the monks applied themselves to industrial pursuits. St. Benedict, forming a new order, employed his disciples in the cultivation of their lands; and the Benedictines claim the merit of having revived agriculture when it had all but disappeared. Looking at results, therefore, it is fair to conclude that the monks had a mission, though it might not be strongly pronounced; and that they accomplished, in the end, a useful purpose for mankind.

II.

IRRUPTION OF THE ARABS.

THE Divine Founder of Christianity had foretold that others would come in his name, who should deceive many; and in the preceding chapter we have seen that the Church was early distracted by heresiarchs, preaching the most conflicting doctrines. But the greatest adversary of the Christian religion, in the sense of the prophecy, did not appear till the sixth century, when the true faith had taken such root, that, humanly speaking, it could not be plucked up, or it must have been overwhelmed by the irresistible progress of Mahometanism.

Partly isolated by seas, and flanked by deserts, Arabia had the character of a natural fastness; and, inaccessible to hostile neighbours, stood immoveable amidst the changes of ages, a primeval rock. Her hardy population was principally nomade; and though, in accordance with their Scriptural destiny, a portion resided in cities, the majority roamed free over the wilderness, having no habitations but

their tents. Sunk in idolatry, they yet preserved the traditions of Genesis; and the figures of Abraham and Ishmael ranked among the divinities of the Caaba. The custody of this sacred edifice, to which we have alluded in our first book, p. 327, was vested hereditarily in the family of Hashem, of the tribe of Koreish; and in the month of April, 569, the wife of the Hashemite chief Abdallah gave birth to Mahomet, destined to play so great a part in the world's history.

Much speculation has been expended in conjectures as to the source of the doctrines of Mahomet, and in endeavouring to explain how a man who, though possessing great natural gifts, could neither read nor write, was able to produce such a work as the Koran. But a candid examination elicits that the Mahometan system is founded on a combination of the Old and New Testaments, based on local usages and traditions; and, secondly, that the Koran is a very mediocre composition, which was, moreover, delivered orally by Mahomet, and written down on the skins and shoulder-bones of sheep by his followers. Each revelation, as it was thus transcribed, was thrown into a box, where it remained till Mahomet's death, and was then first collected and disseminated. It may be

true that a Jew, or a monk, prompted the author; but, in a literary point of view, the composition rather bears the character of those rhapsodies which the untaught poets of Arabia had been accustomed to pour forth from time immemorial, and which were within the scope of his natural talents. Neither is it necessary to adduce Mahomet's journey into Syria, in order to account for his familiarity with the Bible, which had not only been translated into Arabic,[1] but was widely known in Arabia, where the Jews had settled in large numbers. Christianity had been introduced by St. Paul, who, in his epistle to the Galatians, affirms that when converted to the Messiah, 'that I might preach him among the heathen, I conferred not with flesh and blood, neither went I up to Jerusalem, to them which were Apostles before me; but I went into Arabia.'[2] It was, therefore, possible for Mahomet to become acquainted with both the Jewish and Christian doctrines without stirring from his native country, and, as they were firmly impressed on his mind, he probably acquired them in early youth.

Paraphrasing the announcement of our Lord, Mahomet declared that he came to supersede the

[1] 'Prolegomena ad Biblia Polyglot,' 34, 93.

[2] Gal. i. 16, 17.

authority of the Jewish prophets and the Christian Gospel, by fulfilling their predictions; and proclaimed himself to be the Paraclete promised to the Apostles. He represented the Messiah as a prophet of the highest order, inferior only to himself:—'Verily, Christ Jesus, the son of Mary, is the apostle of God, and his word, which he conveyed unto Mary, and a spirit proceeding from him: honourable in this world, and in the world to come; and one of those who approach near to the presence of God.'[3] Moses was held in almost equal reverence, and a high tribute was paid to Noah and Abraham; but the chain of testimony, of which they were but links, was said to terminate in himself, and he was to be the last, as he was the greatest of the prophets.

Mahomet adopted for the basis of his religion the Christian doctrine of faith, requiring, in the first place, implicit belief in this creed—'There is but one God, and Mahomet is his prophet.' He repudiated, therefore, the idolatrous worship of his country, and asserted the unity of an overruling Deity; so far, inculcating a sublime truth, necessary to the emancipation of the human mind. His ethics, though borrowed largely from the Bible, were of a more mixed

[3] Koran, iii. 40.

character. He enjoined the use of prayer, the practice of alms, and the celebration of an annual feast; but, on the other hand, encouraged polygamy, and taught that no mercy should be shown to unbelievers. Among various Jewish observances, he accepted the rite of circumcision, which had long existed in Arabia, and was probably inherited from Ishmael. It might, indeed, have been dangerous to abolish a national usage, sanctified by immemorial tradition; and Mahomet well understood the character, and, when practicable, considered the prejudices of his countrymen. This is especially apparent in his foreshadowing of futurity. He announced a resurrection of the dead, when the body and soul should be reunited, and the faithful, as he named his disciples, received into Paradise, while false Mussulmen and unbelievers would be condemned to torments. He described Paradise as a region of enchanting beauty, replete with every enjoyment that could charm the senses; and, on entering its portals, each son of the Prophet would be met by four lovely houris, devoted to his service through all eternity. The nature of the bliss reserved for his female disciples, who were equally admissible into heaven, was not specified; but it was no less distinctly promised, and, perhaps, mystery heightened its attractions.

The rapidity with which this strange religion spread over the earth might have been thought marvellous, if our own times, so fruitful of prodigies, did not afford a parallel result in the case of Mormonism. But, in truth, there is little ground for surprise in Mahomet's success, when we consider that his doctrines indulged the strongest passions of mankind, gratified the licentious, the adventurous, and the ambitious, and, at the same time, were propagated by the missionary power of fire and sword. Not only was the faithful Mussulman granted a charter of worldly pleasures, but the task imposed on him of disseminating his creed, opened a field of military glory, in which the humblest, by perseverance and courage, might raise himself to princely rank. But still more fortunate were they who, in such a career, were cut down in battle; for it was their enviable fate to be borne immediately to Paradise on the wings of angels. Their felicity would be proportioned to their valour, and to the numbers that, in conflicts with the infidels, had fallen by their hands; and hence arose the contempt of death and the savage fanaticism which characterised the Mahometan armies, and triumphed over all opposition.

The progress of Mahometanism, then, was not

wonderful, since it appealed, in a dark and barbarous age, to the material nature of man, and attached him by his desires and his vices. It even carried pleasure into the grave; and that dreary receptacle became an avenue to Elysian gardens, abounding with groves and fountains, and thronged by beautiful women. Surely the warm temperament of Eastern nations could not be expected to resist such doctrines. We should rather marvel that, announced at a time when the human mind was eclipsed, they did not convert the whole world. The opposition they encountered is a solemn testimony to the truth of Christianity, to the spiritual nature of the human understanding, and to the immortality of the soul; for with the option of a creed addressed to the body or a religion appealing to the reason—on the one hand offered every sensual indulgence, and, on the other, bound to a life of virtue and self-denial, mankind, universally sunk in barbarism, could not but have chosen present enjoyment, tangibly presented to its grasp, had not its ethereal essence, its MIND, possessed an overruling power, arising from a separate existence, and which no religion but Christianity has ever been able to satisfy. Thus, as before pointed out, the Great Disposer had raised up a natural force to repel Mahometanism; and we shall presently see

that, under the same providential direction, the effect of the Arab invasions, if injurious in the outset, was, in the end, favourable to the march of human knowledge.

Eighty years after the death of Mahomet, or, to speak more precisely, in the 94th year of the Hegira, and the 713th of the Christian era, the religion he had promulgated was established over an empire extending from Tartary and India in the East, through Egypt, and along the north of Africa, to Spain in the West, thus uniting the Ganges and the Atlantic. Here was a dominion almost rivalling in extent that of ancient Rome, but comprehending new and unknown nations, and its natural effect was to bring the ends of the world into communication, greatly augmenting geographical knowledge, and promoting commercial intercourse, which has ever been the pioneer of science and progress.

Combining a richness of expression with breadth and elegance, the Arabian language was favourable to mental development. It was of the same stock as the Hebrew, but had been so amplified by accessions from local dialects, and corruptions introduced by pilgrims to the Caaba, that it had become, in point of fact, a new tongue; and so great was its variety of terms that in some cases objects could be indicated by a hundred, and

in others by a thousand different words. The copiousness of the vocabulary may have imparted fluency of speech: for Arabia abounded in poets, whose command of language was instinctive, although, like Mahomet, they were unacquainted with letters. These bards appear to have resembled the minstrels of the Hebrews, rather than the poets of Greece, inasmuch as their chaunts were recited to the music of timbrels, played by the women of their tribe. Possibly the only distinction was in the themes, which were given a religious character by the Hebrews, while the Arabs celebrated national victories, or deeds of prowess or daring. The holy city of Mecca—hallowed by the Caaba from remote ages—was annually the scene of a festival at which the bards of different tribes contended for pre-eminence, and plaudits rewarded the victor. It is impossible to say when their compositions were first committed to writing, but it is believed that the Arabs must have been early acquainted with the Cufic character, and, though himself no scribe, Mahomet, as we have seen, had no difficulty in obtaining amanuenses, when he dictated the successive chapters of the Koran.

Martial pursuits are inimical to literary progress; and, in the days of antiquity, there were

few who, like the great Alexander, evinced a sympathy for science in the midst of conquest, or, like Cæsar, wielded the pen as ably as the sword. The first generations of Mussulmen treated with contempt all knowledge that was not derived from the Prophet. To this feeling we owe many literary calamities, but, perhaps, none comparable with the destruction of the library of Alexandria. Influenced by the entreaties of Philoponus, Amron, the Arabian general, wished to spare that treasury of antique learning, and sought the permission of the Caliph Omar, A.D. 638. The answer of the potentate indicates, at the same time, both the barbarian and the fanatic. 'If the books,' he said, 'accord with the Koran, they are superfluous, and it would be useless to preserve them: if they are contrary to it, they are mischievous, and should be destroyed.'

The acquisition of wealth and settled abodes corrected this spirit, and kindled more liberal ideas. Brought in communication with the West, the Arabs, as they shook off their armour, and turned the spear into a pruning-hook, awoke to the value of knowledge. The Caliph Almamon invited the *savans* of Greece to his court at Bagdad; and such philosophy as survived at Constantinople was soon at his command. He was

equally solicitous for native talent, and by his patronage and example encouraged his subjects in the pursuit of learning. Schools were established; and the hereditary genius of the tribes, which had shown itself in the chaunts of the ancient bards, reappeared in a new form. Composition was now aided by grammar, and by the study of foreign authors, which, diffusing a taste for letters, gave birth to a national literature, oriental in complexion, yet preserving a pastoral simplicity. Poetry and philosophy were equally cultivated, and the oral traditions of the desert were diligently collected, and given the form of history.

Through the munificence of Almamon, and the zeal of his envoys, numbers of valuable manuscripts, chiefly of Greek origin, were disinterred from the libraries of the Byzantine empire, and translated into Arabic. Copies were distributed among the national libraries, for the use of every class; and many fell into the hands of wealthy citizens, who, in the end, formed private collections of great value. It is related, on the authority of Abulpharagius, that the library of an Arabian physician prevented his accepting a tempting invitation from the Sultan of Bokhara, as his books, packed into the smallest space, would have employed four hundred camels in

their removal. A college was established at Bagdad; about A.D. 850, expressly for the translation of foreign works of merit; and the direction of the institution was confided to Honain, a learned Christian physician, professing the tenets of Nestorius.[4] It is ascertained that Honain produced translations of most of the ancient classics, and, indeed, some of those inestimable works would be lost to posterity had they not been preserved in the Arabic versions. The compositions of Plato and Aristotle, of Galen and Euclid, are numbered among his labours; and Abulpharagius mentions that a Maronite monk, named Theophilus, accomplished in the eighth century a Syriac translation of Homer. It is singular that the Arabs should have been content to take these immortal works at second hand, and experience no desire to read them in the original; but, perhaps, the time demanded to acquire a mastery of their own tongue, and the difficulties presented by the equally copious Greek, explain the difficulty. They certainly were eager in the pursuit of knowledge, in whatever shape it might present itself; and, with the benevolent zeal of scholars, were solicitous to diffuse what they learnt. A college at Bagdad, founded by an Abassidian vizier, daily threw

[4] D'Herbelot, 'Bibliot. Orientale.'

open its portals to all classes, rich and poor alike; and six thousand pupils availed themselves of its advantages. Learning was made the passport to emolument, as well as honour; and thus deposited a new germ in the East, just as it perished in the West.

Being constantly engaged in predatory warfare, the Arabs had early turned their attention to the healing art, in which Mahomet was himself skilled; but, under the ancient system, their knowledge was doubtless confined to certain leading principles, to the properties of a few herbs, and the application of the simplest remedies. The works of Hippocrates and Galen were acquired by Almamon, and showed the Arab practitioners their deficiency. Medicine, which had previously been but a craft, now became a science, and was studied with eagerness and success. The human body was still sealed by superstition, or a more pious feeling, but much anatomical knowledge was derived from Galen, and from dissections of the same class of subjects. Hence medical science was rapidly diffused. Under the Abassides, the city of Bagdad alone contained nearly a thousand physicians, licensed by the royal college; and in the ninth century, Arabia produced the great Geber, who deserves to be pronounced the Galen of the East.

Geber has been awarded the merit of originating chemistry, but, as shown in a former chapter, that science, or, at least, its rudiments, must have been known to the ancient Egyptians; and some of its principles were certainly taught in the schools of Alexandria as early as the third century.[5] Still, the Arabian doctor is entitled to the praise of having once more kindled its furnace, though with the ashes of ancient learning; and, in his persevering experiments, he doubtless elicited results previously unknown. As a practical science, indeed, Chemistry was to be the slow fruit of ages, growing out of perverted application; and we owe its development to the labours of the alchemists. The dream of a transmutation of metals was peculiarly fascinating to Eastern imaginations; and the Arabians sought with ardour for the talisman which would change iron into gold. In this pursuit, they arrived at results little appreciated at the time, but which have proved of incalculable value to mankind; and to the Arabian alchemists we are indebted for the invention of the alembic, which could not, it is true, educe the *philosopher's stone*, but can hardly be said to have failed in producing, at least, the elements of the *elixir of life*, since it has made us acquainted with the

[5] Wotton's 'Reflections,' 121.

medicinal properties of poisonous minerals, ascertained the various affinities of alkalis and acids, and analysed the substances of three great departments of nature.

But the alchemists, absorbed by their delusion, did not apply experimental success to a practical purpose; and the medical science of the Arabians largely depended on an acquaintance with the properties of herbs. Consequently, botanical knowledge became an indispensable attainment, and was assiduously cultivated. Geber, while he looked into the alembic, did not neglect the simplest product of the field, and, through his industry, the pharmacopœia was enriched with many valuable remedies, derived from herbs and plants. The beautiful science of botany was thus based on the surest foundations. The domain of nature, as varied as it is boundless, has ever invited explorers; and the example of Geber was eagerly followed, and his discoveries pursued. The little herb of the valley, scarcely visible in its sequestered nook, and the hardy growth of the mountain top, equally attracted attention, and were carefully gathered and examined. Arabian botanists penetrated into other regions, and their herbals were enriched with the products of India, and the plants of the temperate zone. Gradually the character and habits, as

well as the properties of plants, came under investigation; and philosophy opened a new chapter in the book of nature. The subject was so full of interest, that, once touched, it could not but be pursued; and successive ages have swollen the comparatively inappreciable labours of the Arabians into our present botanical system.

The Arabians were among the first observers of the heavens, at a time when the human mind possessed few acquirements, and those of the humblest character. The five planets must have been known to them from the remotest ages, as the sect of the Sabeans, which comprised a large part of the population, included those bodies among their divinities. But astronomy, as a science, never attained any dimensions in Arabia, and, unlike their Chaldean neighbours, the Arabian sages were content with elementary knowledge. They watched the track of the moon in the heavens, and the course of the sun among the stars, which the declension of the constellations in the West, and their reappearance in the East, enabled them to deduce; and they ascertained the fixity of the North-star, giving the wanderer over the desert a guide on his way. The Caliph Almamon sought to stimulate further discoveries, and himself devoted considerable attention to the celestial science. The result,

owing to the perverted views of the time, was not proportioned to his efforts; but it was beneficial in its operations, for astronomy found a home among the Arabs when it was banished from Europe. Nor can it be doubted that the clear sky of Arabia would have revealed some new mystery to the observer, if he had not been in quest of the purposes of fate, rather than celestial phenomena, and made astronomy only the groundwork of astrology.

Royal encouragement of learning was not confined to Bagdad and the Asiatic dominions of the Caliphs, but extended over the various Mahometan conquests in Africa and Europe. On the separation of those provinces, the Fatimites in Egypt, and the Ommiades in Spain, pursued the same path; and the Spanish Abdulrahman emulated the efforts of Almamon. He established colleges and schools, obtained translations of the best foreign authors, and founded a library, which, under his successors, accumulated six hundred thousand manuscripts. His educational schemes were adopted by his son, Alhakin II., himself a student and philosopher. The schools of Cordova cultivated with success both astronomy and medicine; and, in later times, Moorish physicians, taught in these seminaries, were retained by Catholic sovereigns. Nor were the fine arts

neglected; for though no progress was made in painting or statuary, as the laws of Mahomet prohibited any representation of the human form, poetry and music were favourite pursuits, and the Alhambra remains as a monument of Moorish architecture. Pictures were inadmissible into its courts, but Eastern taste could not be satisfied with bare walls, though they might be composed of jasper; and the palace of the Moorish kings was blazoned with a decorative gold-work, which, in its name of arabesque, still indicates its origin.

The curious may conjecture what would have been the fate of mankind had the Arabian invasion continued; and, following the same tide of success, established in Europe, as in Africa and Asia, the supremacy of Mahometanism. Perhaps it is unprofitable to pursue such inquiries, which must always be inconclusive; yet, to a candid judgment, they at least yield one fact, inasmuch as they prove that the course of events, whatever might be their apparent effect at the time, always ultimately result in the advancement of human intelligence, and, consequently, bear testimony to the operations of an overruling power. This is clearly deducible from the incidents of the Mahometan irruption. The Arabs, swarming from their hive, overran

the defenceless provinces of the East, impelled further and further by fanaticism and success; but as soon as they tasted the sweets of civilization, their old contemplative nature revived, bridling their lust of conquest, and checking their martial spirit. The same race that had destroyed the library of Alexandria founded that of Cordova; and the learning of Aristotle, forgotten at Athens, was hoarded at Cordova and Bagdad. Thus the precious bequests of antiquity were preserved to modern times, when, but for such intervention, they must have been hopelessly lost. But the issue proved that Arab civilization and Arab prowess were equally hollow. The latter was vanquished by prosperity; the former, reaching a certain point, found itself arrested by the Koran, which was adapted only to a particular climate, and a barbarous mode of life. Up to a certain period, then, the Mahometan invasion was beneficial to human knowledge, affording it a refuge during the dark ages; but, from the causes stated, it would seem to have taken a contrary direction directly this end was answered; and, looking at the present condition of Turkey and Morocco, we may conceive what would have been the effect on the human mind of the triumph of Mahometanism in Europe.

III.

NIGHT AND DAWN.

THE Roman dominion seems to present in its history the vicissitudes of human life. In its youth, to the time of the first Brutus, it was capricious, restless, and ambitious, hardy in habit, and continually increasing in stature; in its manhood, to the time of the Scipios, it was active, enterprising, and robust; in its meridian, from the accession of Augustus, intellectual and luxurious, but still vigorous; and then came a period of old age, with a sensible decline, followed by rapid decay. As in human nature, so in this territorial body, the mind of the Roman people reflected the successive stages of their social condition; and, originating in kindred causes, their moral and physical decrepitude appeared together. This result we have traced in our first book; and the present chapter will faintly indicate by what influences demoralization was still promoted, and how disastrous were its effects.

To a modern eye, the most surprising feature

in that social earthquake is the disappearance of literature. That a period might arrive which should produce no shining light, no great original genius, and, consequently, be void of works of extraordinary merit, we can understand; but that, after the intellectual meridian of Greece and Rome, the human mind should cease to be attracted by knowledge, should relapse into darkness, is, indeed, an event which might almost inspire misgiving for the future. Yet if the subject be attentively considered, it will be found that history furnishes explanations of the phenomenon, quite sufficient to remove apprehension, since they comprise incidents which, looking at the present structure of society and nations, cannot again happen in the economy of the world.

Apart from the internal causes of intellectual retrogression in the Roman empire itself, arising from the spread of luxury, the corruption of manners, the constant recurrence of intestine commotions, and, above all, a progressive national decline, the catastrophe was completed by the tide of barbaric invasion which swept over Europe uninterruptedly from the fourth to the tenth century, each wave, as it broke, being succeeded by another, which brought fresh devastation and ruin. It is im-

possible to form an estimate of the miseries and destruction entailed on mankind by this calamitous period, and we can hardly wonder that learning expired, when whole nations fell by the sword. The invasions of Alaric and Genseric left behind them a track of blood; and Attila, when ravaging the fairest regions of the world, boasted that the grass never grew where his horse had trod. In the fifth century the Saxon hordes descended on Britain, the conquest of which, being stoutly resisted by the ancient inhabitants, was not completed for a hundred years; and we may form an idea of the fury with which it was prosecuted, when we learn that it was the object of the Saxons not to leave a single Briton alive.[1] At the commencement of the seventh century, the Danubian lands were overrun by the Bulgarians, who adopted a similar system, and, under their chief Simeon, even pursued their sanguinary march to the Bosphorus, halting only before the walls of Constantinople. But still more fatal to human intelligence was the circumstance that, as the successive conquerors subsided into repose, when learning and civilization might have revived, they were, in their turn, subjected to invasion, so that the whole frame of society

[1] 'Chron. Saxon.' 150.

was still kept dislocated. The most formidable of the later invaders were the Saracens, whom nothing seemed to stop; for marching from the heart of Asia, they established themselves in Spain, and in the eighth century, A.D. 732, attempted the conquest of France. Here they were encountered by the Frank mayor of the palace, Charles, surnamed Martel, or *the Hammer*, and in a decisive engagement, which lasted seven days, were completely overthrown. From this check they never recovered in the West, though it was not till the fifteenth century that they were finally driven out of Spain.

The Hungarians, or, as they were originally called, Magyars, made their appearance in Europe at the close of the ninth century, emerging from their Scythian lairs in irresistible numbers, and enacting on every side such unparelleled horrors that they were regarded by Christendom as the precursors of the Day of Judgment, the Gog and Magog of the Scriptures.[2] About the same time, the Danes and Normans poured down from the Baltic, ravaging the coasts and ports of the West, and ultimately obtaining a footing, under different chiefs, in France, Italy, and England. In the

[2] 'Decline and Fall,' lv.

tenth century the Hungarians were signally defeated by Henry the Fowler, and about thirty years later (A.D. 972), were finally crushed by Otho the Great; but the Normans succeeded in retaining their conquests, though, as a distinct people, they also disappeared in a few ages, merging with the races they had vanquished.

But wars and invasions were not the only events which convulsed society, and, consequently, repressed the human mind. In their train came pestilence and famine: a thousand fields of battle, heaped with unburied bodies, imparted a deadly taint to the atmosphere; and regions which had been the granaries of Europe—the fruitful provinces of Africa and the Italian plains—became, and to this day remain, dreary and desolate wastes. It conveys some idea of the overwhelming magnitude of these visitations, and their effect on society, when we learn that during the single reign of Justinian, A.D. 527—565, the Roman empire lost by pestilence alone a hundred millions of souls.[3]

The successive invasions naturally introduced into Europe the languages of the invaders, afflicting mankind with a second confusion of tongues, not less marked than that of Babel. One consequence of this catastrophe, protracted

[3] 'Decline and Fall,' xliii.

over so many ages, was the obliteration of Latin, which, from being the common tongue of all the Roman provinces, gradually ceased to be spoken. While the Roman empire still existed, indeed—so far back as the reign of Diocletian—it had lost its purity, and become largely infused with barbaric terms; but now its use was confined to legal documents, and the very pronunciation was forgotten. In the present day the learned are divided as to the particular sound which the letters should receive; but, judging from quantity, there appears little room to doubt that the practice of the English universities, at least so far as regards the consonants, accords best with ancient usage. A kind of rustic Latin was popularly spoken in Gaul, so late as the seventh century;[4] but there was no fixed standard of pronunciation; and the false quantities perpetrated by the poets of the two previous centuries, prove that it had long been lost. The language itself was only preserved from oblivion by public documents and the services of the Church, which rendered its acquisition compulsory on the clergy, and hence it was taught in the schools of cathedrals and monasteries, the last retreats of expiring knowledge. But, as regarded society at large,

[4] Hallam's 'Middle Ages,' ii. 349.

such seminaries were of no import; for rarely, if ever, were they entered by the laity; and, during many centuries, the highest and noblest were ignorant even of the use of letters, and unable to write their own names.

Under the later empire, the Roman Emperors had made several efforts to arrest the decline of letters, and in the fourth century Constantine established colleges and schools, which offered every opportunity and every encouragement for the cultivation of learning. Much was also done by the schools of Alexandria and Athens, which attracted students from the remotest parts of Europe—from Spain, Gaul, and Britain—up to the period of their extinction. But the conquest of Egypt by the Saracens, and of Athens by the monks, put out those two beacons; and science took its last stand in the college of Constantinople. This institution was not gifted with the power, if it possessed the inclination, to fan its languishing embers into a flame. It was easy to distinguish its President as the Sun, and describe its dozen professors as the Signs of the Zodiac; but empty titles, however grandiloquent, do not impart the function they express; and as the academic sun gave forth no light, the signs of the zodiac partook of the eclipse. Even

within the limits of the empire, the intellectual decay was not to be arrested by ordinary means, by the operations of a royal college or the promulgation of royal edicts; and everywhere men were engrossed by the troubled current of the times, while the facilities for obtaining knowledge, and its instruments, extent, and means, became daily more circumscribed. Such respite as intestine commotions and foreign wars afforded, was devoted by the wise men of the East to religious controversy, which diverted inquiring minds from wholesome study: the perusal of the great heathen writers was discountenanced, as subversive of Christian principles; and, as the conquest of Egypt by the Saracens stopped the customary supply of papyrus, their precious writings were effaced for the sake of the parchment, which, thus acquired, was inscribed by pious hands with some controversial diatribe or monastic legend. We may lament the scarcity of books caused by the calamities of war; involving the wholesale destruction of stupendous libraries; but these smaller losses, the deliberate acts of individuals, would excite indignation, if they did not at the same time awaken pity, showing us to what a depth the human mind had fallen.

But in the midst of so much debasement, and while such ignorance prevailed in the capital of civilization, traces of a better spirit appear among the barbarians; and though it took no root—though it was quickly eradicated by the next irruption—it still revealed itself continually, indicating, under the most discouraging circumstances, the elastic power of the intellect, and man's inherent craving for knowledge. Theodoric the Goth, after winning the throne with his sword, A.D. 493, ruled Italy with paternal indulgence; and though so illiterate that he was unable to write his name, was a patron and protector of learning. His court was graced by the two most learned men of the time, Cassiodorus and Boethius; and the former was his principal counsellor, minister, and friend. The favour of the Gothic King secured Cassiodorus every object of honourable ambition, but he preferred a more modest, though not less useful sphere; and after passing many years in public employments, he retired to a monastery, founded by himself, in Calabria, and there devoted himself to literary pursuits. His principal work was a *History of the Goths*, which is unfortunately lost, and letters on state affairs, written during his ministerial career, and relating, with happy candour, all the occurrences

at Court. He also translated several Greek authors, and encouraged and superintended the translation of others, enriching his monastery with a valuable library.[5] His writings show that he was familiar with the masterpieces of ancient literature, while they exhibit, with some little pedantry, a barbaric elegance of diction, which gives them a peculiar character; and he may safely be pronounced the greatest luminary of that benighted period.

His contemporary, Boethius, claims an almost equal fame; and, possessing the same influence at court, was extravagantly applauded by the sterile writers of the age, who represent him as a happy combination of Demosthenes and Cicero, and declare that, in attempting to imitate, he surpassed the models of antiquity. His greatest original work was the *Consolations of Philosophy*, which, though not free from blemishes, possesses considerable merit, and displays both genius and erudition. The prose, with some mixture of hyperbole, is fluent and elegant, and is embellished with fragments of verse, breathing a poetic, as well as philosophic spirit. The work was written in prison, at Pavia, and its unfortunate author further

[5] Berington's 'Lit. Hist. of Middle Ages,' 107.

experienced the instability of fortune, by suffering death from the headsman, being condemned on a charge of which he was innocent.[6] Like Cassiodorus, Boethius exerted himself to revive a taste for literature, and translated several of the Greek authors, including Aristotle, whose works, through his influence, were now more attentively studied, and from this period began to resume their empire over the learned.

But those deserving of that proud name were few in number, and scattered over distant regions. In the sixth century Ireland, and in the seventh England, are respectively described as the favoured spots where knowledge, elsewhere extinct, was still cultivated. York and Oxford already possessed schools of high repute, where the clergy might acquire at least the rudiments of literature; but the great mass of the people, beyond the pale of education, and almost of civilization, were dependent for instruction on the bards, whose national lyrics were at once their grammar and their history. Foremost among the Celtic bards was Ossian, the Irish Orpheus, who, if he ever existed, probably lived about the fourth century. But those of Britain and Wales exercised the most lasting, if not

[6] Berington's 'Lit. History of Middle Ages,' 108.

most extensive influence; for they survived the diffusion of letters, and their privileges were secured by statute so late as the age of Elizabeth. Like the poets of ancient Greece, they were summoned to periodical contests of skill, at which a prize was awarded to the victor, and in the reign of the Maiden Queen one of these trials was held by her special order.[7] The bardic compositions might keep alive the martial spirit of a people, but could neither raise their morals, nor enlighten their minds; and, accordingly, we find that they made no impression on the prevailing barbarism. Every man's hand was still against his brother, as among the savages of the desert; and parents even sold their children into slavery—a practice to which, according to the legend, England was indebted for her conversion to Christianity. But a more powerful curb to violence was imposed by the Church, which gradually threw its chain over all the institutions of the barbarians, insinuating itself into every act of social, judicial, and political life; and exacting from man's superstitious terrors, what it could not obtain from his reason. The gift of miracles was still associated with the priestly functions; and, for a time, the most flagitious were kept in awe by religious cere-

[7] Pennant's 'Tour in Wales,' 449.

monies, which appealed to the direct interposition of the Deity. They now serve, after many ages of progress, to illustrate a dark epoch in the history of the human mind; and so conflicting were the elements addressed, that it is hardly possible to pronounce whether their influence at the time was for good or evil. Yet it cannot be doubted that they originated in pious feelings—that they were directed towards laudable objects; and we can only lament that they too often resulted in the punishment of the innocent, while, on the other hand, they may have perpetuated the barbarism they sought to restrain. History affords us many such lessons, and we may take it for granted that the human intellect can only be permanently impressed by the development of its healthier faculties.

Looking at the results, it may be assumed that the Roman pontiffs committed a mistake, in preserving, under a new form, customs essentially pagan, with the view of facilitating the conversion of the various idolatrous nations among whom they existed, yet we find this policy still adopted in the sixth century, in the instructions of Gregory to St. Augustine.[8] It is doubtless from such innovations that we derive the germs of greater errors, the cruel resort of

[8] Hume's 'England:' the Heptarchy.

the Judgment of God, the Judicial Combat, and the Saxon test of iron and water.

The Judgment of God and the ordeal of the Saxons were somewhat similar. The former, which prevailed among the Franks and Germans, offered an accused person the alternative of passing through fire or walking on water; and it was held that fire would not burn the innocent, while water, as a pure element, would not receive a corrupt substance, and, consequently, a guilty person could never sink. Among the Saxons, it was customary for the accused, if of noble extraction, to carry a piece of red hot iron a certain distance, or if of low birth, to take a stone from a pot of boiling water: after which his arm was tied up for three days, when the bandage was removed, and should no mark of a burn appear, it was a sign of innocence, but the smallest scar proclaimed guilt.[9] The Judicial Combat was not countenanced by the Church, but it was founded on the same delusion, and either the accuser or the accused, if destitute of proof, could challenge his antagonist to mortal combat, referring the judgment of heaven to the lance or the sword.

Previous to the Arab invasion, Spain derived from the Church wiser institutions, founded on

[9] Hume's 'England:' Appendix I.

unexceptionable principles—for the celebrated Council of Toledo, which framed the laws of the Spanish Visigoths, was composed principally of ecclesiastics. Here the mode of procedure was strictly rational: there was no Judgment of God, no Judicial Combat, no ordeal of fire and water. Even the system of *compurgatores*, by which different degrees of crime were required to be disproved by a graduated scale of oaths, was excluded; and the only admissible testimony was that of witnesses. It would be a curious and instructive study to have traced, in the course of events, the effect produced on society by this jurisprudence, in connexion with that arising from the barbarous practices of the neighbouring nations—to have noted the operation of the theocratic element in the van of civilization, shaping, directing, and leading it, instead of attending in its rear, or, rather, following expediency, instead of principle. But we possess no data for the comparison, since the Spanish experiment was abruptly terminated; and the Arabian invasion, carrying all before it, extirpated the rising civilization and the very name of the Visigoths.

Nothing more forcibly illustrates the universal ignorance of the sixth century than the notions which prevailed in the polished circles of Con-

stantinople of the nature and topography of countries long familiar to merchants, and recently an integral portion of the Roman empire. The learned Procopius describes Britain in the same strain and almost the same terms as the poets of legendary Greece applied to Sicily or Libya. He bisects the island with an ancient wall, the bourne from whence no traveller returns; for while the eastern region is fruitful and salubrious, the portion to the west is the abode of departed spirits, who are conveyed to its gloomy depths by fishermen, in the pay of the Franks! The air of this earthly limbo is contagious; the soil sterile and desolate; the ground covered with serpents; and the sky eternal night. Surely not a blacker night than had fallen on the human intellect!

At the close of the eighth century a gleam of light broke through this Egyptian darkness, and the figure of Charlemagne looms into view, like a colossal statue. This great King, if a tyrant and conqueror, was a friend of letters. His court was the seat of the Muses, such as they then were; his closet was a library, and his palace a school. In seeking to consolidate his vast dominions, and give them stability and coherence, he endeavoured to revive the civilization, as well as the tradition of

the Roman empire; and, with this view, laboured assiduously to promote the diffusion of knowledge. The progress made in England excited his emulation, and, to aid his designs, he secured the services of Alcuinus, principal of the college of York, and one of the foremost men of the age. Alcuinus has given a summary of the system of tuition pursued at York, and it may be cited as embodying all the learning then extant, while, at the same time, the passage exhibits, in a small compass, the whimsical conceits and hyperbolical figures in which knowledge was tricked out, and which are as inimical to real progress as to correct taste. 'The learned Ælbert,' he says, speaking of his predecessor in the scholastic chair, 'afforded drink to parched minds at the founts of divers studies and sciences. Some imbibed from him the art and rules of grammar; to others he exposed the flowing waves of rhetoric; some were practised in the contests of law, and others in the compositions of the poets. Again, he imparted the harmony of the spheres, the economy of the sun and moon, the five circles of the pole, the seven wandering stars, the rise, declension, and governing laws of the stars, the flow of the sea, the quakings of the earth, and the nature of men and animals. He explained the mode of calculating the moveable feast of

Easter, and, more than all, elucidated the Holy Scriptures.'[10]

Alcuinus took up his residence in France in 782, and, from this time, his labours in the cause of education were unremitting. Charlemagne, indeed, gave him no rest. Ever urging him to new efforts, stimulating his zeal, goading his activity, the eager monarch kept him to the work, till, at last, the mind of the learned priest wore out his body, and he dropped from exhaustion. One of his most arduous tasks was the revision of classic manuscripts. From long neglect, and the ignorance of transcribers, the most precious writings of the ancients had become interpolated with errors, which quite obscured their meaning, and scarcely a perfect manuscript could be found. Alcuinus made a personal examination of the various monastic libraries, exhumed their buried treasures, collated and corrected the manuscripts, and multiplied copies. At the same time, he succeeded in establishing schools in different parts of the kingdom, though they seem to have been designed exclusively for the clergy; and he presided over a seminary attached to the Court, and called the *School of the Palace*, which was attended, among others, by Charlemagne himself.

[10] Alcuini Opera, ii. 260.

But the greatest work of Alcuinus was a revision and translation of the Scriptures, which, after years of application, he successfully completed, and presented to his imperial master. At length, Charlemagne consented to his retirement, and he withdrew to the abbey of St. Martin of Tours, presented to him by the King. Even here, however, he was still a pioneer of civilization; he formed the minds of the two most distinguished scholars of the following century, Raban Maur, archbishop of Mayence, and Analaire of Metz; and the momentum he imparted to the intellect of France never expired.

What Charlemagne, the father of the French nation, did for France, Alfred, the founder of the English monarchy, accomplished for England. Both monarchs were surnamed *the Great*, and each merited the appellation; but the greatness of Alfred was unique; and the philosophic historian, in reviewing the events of his reign, is forced to lament that, through the partiality or neglect of his contemporaries, his reputation has descended to us, in such colours, that we are unable to perceive in him 'those small specks and blemishes, from which, as a man, it is impossible that he could be entirely exempt.'[11]

[11] Hume's 'England:' Alfred.

Succeeding to a kingdom without security and without law, a prey to the ravages, and, at length, to the rule of the Danes—at one time a fugitive, at another an outcast—he finally triumphed over every difficulty, expelled or subdued the invaders, liberated his people, and settled the commonwealth on such a basis, that golden branches were attached to trees in the public thoroughfares, and no one dared to touch them.[12] Forming a new code of laws, he established, instead of the ordeal of iron and water, the noble institution of TRIAL BY JURY; for the defence of the kingdom he organised the MILITIA; and declaring that Englishmen deserved to be free as their own thoughts, he framed the CONSTITUTION, which, surviving the shocks of conquest, of civil wars, of usurpations, and of two revolutions, is still, after the lapse of a thousand years, the palladium of our country.

In his childhood, Alfred's education was neglected; and he reached his twelfth year before he could read; but the compositions of the Saxon bards, as recited at Court, deeply impressed him, and awoke a kindred inspiration in his breast. He became a diligent votary and zealous benefactor of learn-

[12] Hume's 'England:' Alfred.

ing; and, as soon as he recovered his crown, invited to England the most eminent scholars of the Continent, retaining them to assist in the civilization of his subjects. He restored the royal college of Oxford, repaired the monastic libraries, founded and endowed new seminaries, and, instead of confining education to the Clergy, enjoined that all freeholders possessing two hides of land should send their children to school. No monarch has since risen in England to take the same interest in literature and science; and the country which has produced some of the greatest authors has at no subsequent period — except during the reign of George the Fourth—given, through its ruler, any substantial encouragement to literary men.

Alfred, in constructing a navy to repel the Danes, revived the art of navigation: his ships visited the Mediterranean, and, if we may credit the Saxon chroniclers, even penetrated to India [A.D. 883], so that they must have doubled the Cape, and circumnavigated Africa.[13] This was at a time when Britain was almost unknown to the polite inhabitants of Constantinople, when the wild fables of Procopius might still be believed in the Oriental college, and when the imperial map, regarded as the standard of

[13] 'William of Malmesbury,' i. ii. 4.

geographical knowledge, gave to this once tributary island the name of Thule.[14]

While encouraging the cultivation of letters, Alfred himself laboured assiduously with his pen, and may be considered the first author of his age. As a poet, he was inferior to none of the Saxon bards, and he composed innumerable parables, stories, and apophthegms, in which, by showing the beautiful effects of virtue, he sought to raise the moral character of his subjects. He also translated the Chronicles of Bede and Orosius into Saxon, for the information of the people: and enriched the national literature with a Saxon version of the *Consolations of Philosophy*.[15] His social institutions have endured; for they originated in the highest political wisdom, based on truth and justice, and tempered, so to speak, by a profound knowledge as well of human nature as of the peculiar instincts of his subjects. But the age was not ripe for his educational provisions; and his great public schools, with the exception of Oxford, died with him. Doubtless a different result might have happened, if the island had not been subjected to new incursions of the Danes, and, in the succeeding reigns, to a long series of troubles, which again disorganised

[14] 'Decline and Fall,' xxxviii.
[15] Hume's 'England:' Alfred.

society. But it cannot be denied that the literature of the age was exclusively theological, and almost confined to the cloister—to monkish legends, sermons, poems on sacred subjects, and silly controversies. The genius of Alcuinus, indeed, had kindled a new spirit in France, and, fostered by his disciples, it still survived. At the court of Charles le Chauve, A.D. 845, we find the philosophical and theological schools coexisting: the one represented by Hincmar, Archbishop of Rheims, the other by John Erigena, better known by his name of Scotus. Hincmar was a courtier and a priest, and his writings are confined to the controversial subjects of the time. A far higher place was taken by Scotus, who, trained in the then famous colleges of Ireland, his native land, had finished his studies in Greece, and stored his mind with the wisdom of antiquity. Invited to Paris by Charles le Chauve, he became director of the School of the Palace, and regained for that seminary its original reputation. An anecdote is related by a monkish chronicler which shows the intimacy that subsisted between the monarch and his preceptor, while it illustrates the coarse manners of the times; 'John was seated at table,' says the historian, 'in front of the King, who sat at the opposite end: when the dishes

had been removed, jests were cracked, in a joyous vein, and after divers pleasantries, seeing John act in a manner not according with politeness, the King gave him a reproof, crying, "*Quid distat inter sottum et Scotum?*" ("What separates a sot from a Scot?") "Nothing but the table," replied John, returning the thrust to the giver.'[16]

Scotus translated and revised many of the Greek authors, and wrote some commentaries on Aristotle, one of which, escaping the hand of time, is still preserved in the University of Oxford. His chief original works were a treatise entitled *De Predestinatione* and an essay on *The Division of Nature.* But when his controversial performance was buried in oblivion, and his philosophical essay could no longer be understood, he was still remembered, in the small circle of the learned, as the translator of the alleged works of Dionysius the Areopagite. These clumsy forgeries, the fabrication of the fifth century, had been brought forward as the productions of the Athenian sage, mentioned in the Scriptures as the convert of St. Paul;[17] and were an exposition of the Neoplatonism of Alexandria, which, in some points, was

[16] 'Will. of Malmesbury, De Pontificibus.'

[17] Acts xxii.

not reconcileable with Christianity. The Neoplatonic doctrine denied the unity of the Deity, and made the Godhead identical with the creature, who, after death, was said to be absorbed in the bosom of the Creator, instead of being amenable, as the Scriptures assert, to a final judgment. These ideas had once prevailed extensively in the East, and it would appear, from what remains of his writings, that they were believed by Scotus. Certain it is, that his heterodox opinions attracted the attention of the ecclesiastical authorities, and in 867 Pope Nicholas I. addressed a letter to Charles le Chauve, severely censuring his writings, and recommending his immediate dismissal. Scotus found refuge with Alfred, who, sensible of his great merit, appointed him to the chair of Oxford, and here he continued till 883, when, in some dispute, he so incensed his pupils, that they fell on him with their styles, and put him to death.[18]

The feeble light which Alcuinus and Scotus kindled in the West, extended, through a chain of inferior luminaries, to the East, where learning now began to shake off its dulness, and scholars their sloth. The college of Constantinople suddenly awoke to new life: the academic Sun,

[18] Matthew of Westminster.

after a torpor of centuries, once more exhibited vigour; and the Signs of the Zodiac shared its animation. Royalty was not slow to encourage the movement, and it was especially fostered by the Cæsar Bardas, uncle of Michael the Third, A.D. 988. Leo, Archbishop of Thessalonica, revived the study of astronomy and mathematics; and the other sciences were taught by the celebrated Photius, who occupied the patriarchal throne of the Eastern church. The brilliant productions of antiquity were disinterred from their shelves. their contents abridged, and copies multiplied, while writers of merit—Suidas, Tzetzes, and Eustathius—contributed original works. It was this school that trained the Emperor Constantine Porphyrogenitus (*born in the purple*), the Empress Eudocia, and the Princess Anna Comnena; and an impulse was now given to knowledge, which was destined to exercise a lasting effect.

About the same period the philosophy of the West produced Pope Silvester II., who wrote several learned treatises, and was a profound mathematician; but appears to have taken no measures, as head of the Roman state, to impart instruction to others, and, indeed, he would probably have met with some difficulty in such an undertaking, as the ignorance of the multitude

was so profound, that even the papal tiara could not preserve him from the imputation of dealing in magic. This was a stigma which the credulity of the times fastened on every scholar, and so perverse had the human intellect become, that light itself—the light of knowledge and reason —was pronounced *the black art.*

The most prolific author could obviously do little to enlighten mankind, when the circulation of his books was restricted to two or three copies, executed at serious cost, and with great labour. As already observed, the scarcity and high price of parchment were an insuperable obstacle to the diffusion of letters, and books could only be obtained by rich monasteries or men of large means. But in the tenth century, just as learning began to raise its diminished head—just as the human mind once more put forth leaves of promise—a new material was introduced; and parchment was superseded by PAPER. This beautiful fabric, which the ingenuity of man derived from old rags, inaugurated a revolution in the intellectual state of mankind, hardly surpassed, if we consider the relative conditions of society, by that arising from the invention of printing; and, in fact, the mighty press itself would be comparatively powerless, were it not supplied with this sustaining aliment. Its intro-

duction produced an immediate effect: the number of books was largely increased, and their circulation proportionably extended, while the price, which had been so adverse to their diffusion, was brought within the reach of a much wider class, though not of the community at large.

The course of events was indeed gradually tending towards a new epoch in intellectual history; and society was borne along on its current with scarcely an effort of its own. Philosophers differ as to the precise impulse which directed the Crusades, and while some consider them a religious, they are described by others as a social movement. Allowing both influences a share in the result, they must still be regarded as a strictly psychological phenomenon, exhibiting the same quality among the Christians, the same religious and martial enthusiasm, which Mahometanism had kindled among the Saracens. From the first Crusad ein 1096 to the Crusade of Children, we find this element predominant; and though many were doubtless actuated by ambition, by the lust of spoil, by the incitement of adventure and a wandering life, the multitude clung to the primitive delusion, as it had been preached and disseminated by Peter the Hermit. It was the rebound

of the Asiatic shock. The scope of our history does not require us to trace the successive episodes and varied progress of the Crusades, but they were attended by moral results which must be adverted to, and which, perhaps, were not too dearly purchased, as society was then constituted, by so large an expenditure of blood and treasure.

The Eastern empire had hitherto been separated from Europe by an impassable barrier, by custom, policy, and language; and its comparatively civilized inhabitants still regarded Western nations as barbarians, from which, in truth, they were but little removed. But, on certain points, as much ignorance prevailed in the coteries of Constantinople as in the schools of Oxford and Paris. Geography was so little understood, that, as we have seen, Britain was described as almost out of the world, the frontier, if not the gate, of Hades; and Western scholars held similar notions of Asia, and even of the islands of the Mediterranean. What a love of the marvellous, what credulity, what superstition, darken the pages of the various monkish chroniclers of the first Crusade! Those of the last, scarcely more than two centuries later, breathe a spirit how different! James de Vitry is a philosopher, a naturalist, and a *savant*. We feel, as we read his narrative, that the period

of eclipse has terminated—that the lights of philosophy and science once more shine, and that the intercourse of man with man, and nation with nation, has done its work. One of the richest gifts of this social communion was Geography, and its first lessons piloted the way to new acquisitions and new regions. King Alfred had sent envoys to Madras, by what route must ever remain a mystery; but now the Emperor of the Mongols sent an ambassador to the court of England, and a Franciscan friar became Archbishop of Pekin.[19] Some Polish and Austrian merchants, incited by commercial enterprise, penetrated into Tartary; an English wanderer traversed the greater part of Asia; and the famous Marco Polo visited the court of the Great Khan.[20] Somewhat later, Sir John Mandeville, an English physician, made very extensive travels in the East; and the Genoese and Venetians carried their commerce to previously unheard-of localities.

Prior to the Crusades, architecture, like the other fine arts, had fallen to the lowest ebb in the West, where all buildings were of one type and style. This had been introduced in the fifth century, concurrently with the bar-

[19] 'Memoires sur les Relations Politiques des Princes Chrétiens avec les Empereurs Mongols.' [20] Ibid.

barian invasions, and it continued to prevail, more or less, till the seventeenth, when, on the revival of architecture, it obtained the name of *Gothic*, from the contempt in which it was held. But it received its first check at the period of the Crusades, and from that time was obliged to adopt a more picturesque character, in order to maintain its ground against the Byzantine style. The European architects of the twelfth century were a company of Greeks, associated under the title of FREEMASONS, and who, entering into regular contracts with different Sovereigns, designed and constructed the works they undertook.[21] In the seventh century, a few public buildings, and more particularly churches, began to be furnished with glass windows, a convenience unknown to the ancients; for though glass was invented by the Phœnicians, and is said to have been in use as early as the days of Job, its admirable capabilities appear to have been quite overlooked, and were not made available for two thousand years. It was first introduced in windows in England in 674, by Abbot Benedict,[22] but either its advantages were not appreciated, or the material was too costly; for glass windows did not become general till the twelfth century. They

[21] Wren's 'Parentalia.' [22] Venerable Bede.

were first adopted in Italy, then in France, and subsequently, about 1180, gained ground in England. Painting on glass commenced with its first introduction into churches, but the art was much improved in later ages, and attained its highest perfection in the tenth century.

For several centuries, domestic architecture, if it deserved the name, was as stationary as the ecclesiastical, and had no aspiration beyond round towers of stone, of immense thickness, embrasured and loopholed, rather with a view to defence than to admit light, so that the rooms had more the air of dungeons than chambers. In England, where an insular position afforded security from invasion, a better style of building gradually began to appear, though the castellated type was still retained; and this new order is represented by the castles of Windsor and Alnwick. But the majority of the people continued to live in wooden houses, formed of a framework of oak, faced with horizontal planks, and it is not till the reign of Henry II. in the twelfth century, that we hear of some rich citizens of London living in houses of stone.[23] In the fourteenth century, the art of building in brick, which had been lost from the time of the Romans, was fortunately re-

[23] Lyttleton, iv. 130.

covered, and being brought over to England from Flanders,[24] made great inroads on the use of timber. About the same time, houses were furnished with chimneys, which, indeed, appear to have been known much earlier, for we recently discovered a chimney in the guardroom of Knaresborough Castle, formed in the thickness of the wall, and which, therefore, must date from the foundation of the structure by Serlo de Burgh, in 1109. But our ancestors made a great stand against innovations, and for a long period they preferred the primitive contrivance of a hole in the roof. Prejudice and habit, however, at length gave way; and windows and chimneys, from being barely tolerated, came to be appreciated, and are now deemed indispensable.

From the era of the Crusades we date the European knowledge of alchemy, which, though itself a delusion, gave birth, as our chapter on the Arabs has shown, to valuable discoveries, opening the arcana of true science. It may be humiliating to our pride, but it is not the less true, that we owe our chemical knowledge to accident, and that philosophy stumbled on its mysteries, while pursuing a shadow. There is no stranger phenomenon in the history of

[24] Hallam's 'Middle Ages.'

the human mind than the hold which this hallucination, this spell, maintained so long over the mightiest intellects of successive ages, and we behold with wonder the learned Geber, the wise Albertus Magnus — Roger Bacon himself, bending over the crucible, in a vain search for the philosopher's stone and the elixir of life. And surely it may excite greater wonder that a pursuit so frivolous should have led to such prodigious results; and in the bait which allured men to these researches, as well as the course they followed, we may recognise the design of an overruling Power, initiating human reason in the deepest problems of nature.

It was the alchemists who laid the foundation of experimental science, the only true ground of knowledge; and from the new ideas which their discoveries suggested, arose, in course of time, the two rival sects of *Realists* and *Nominalists*, which divided the schools of the middle ages. After a protracted contest, the victory remained with the Nominalists, who, rejecting imaginary conclusions and unfounded hypotheses, insisted on the necessity of experimental researches, as a means of accumulating facts. Thus the first step was taken on the path of Induction.

But as yet that great light of human thought was unseen, or, at least, was rather perceivable

by instinct than by the understanding; and if we take the most independent thinkers of the period, from Duns Scotus to Bruno, it will be found that they clung to the very errors they professed to repudiate. Science owes much to Albertus Magnus, who surpassed Geber in the extent of his botanical investigations, educed from his crucible many valuable secrets, and elicited the latent properties of metals. Yet this great sage, so skilled, so accomplished—who was versed in the organic structure and physiology of plants—believed that a good soil converted rye into wheat, and that oak branches thrust in the ground became vines. With such ideas, he might well deem it possible to change iron into gold!

Roger Bacon was not free from the delusions of the time, for he assiduously cultivated alchemy; but, like Albertus,he acquired from his experiments many precious facts, which almost demonstrate that his favourite pursuit was made subservient to scientific inquiry. Born at Ilchester, in Somersetshire, in 1214, he came into the world some twenty years later than Albertus; and may thus have become familiar with the discoveries of that philosopher before he attained the age of manhood. His studies were commenced at Oxford, but he took his degree of

Doctor of Divinity in the university of Paris, and immediately afterwards, returning to England, assumed, in 1240, the vows and habit of the order of St. Francis. Devoting himself to science, he greatly enlarged our chemical knowledge, and his unremitting application was rewarded with rare success, achieving, among other results, the invention of gunpowder. This dread discovery, indeed, he only partially revealed, from motives of humanity; but time has proved that there was no real ground for his apprehensions; for the horrors of war have been diminished, rather than aggravated, by its use, and, on the other hand, mechanics have found a valuable accessory in its explosive power. We cannot now ascertain what affinity it bore to the composition called Greek fire, invented by Callinicus, a mechanist of Heliopolis, in the seventh century, as the secret of that destructive projectile has long been lost; but Sir Harris Nicolas, a good authority, conjectures that naphtha, pitch, and sulphur were its principal ingredients.[25] The Chinese claim to have been acquainted with gunpowder from time immemorial, and the Arabs are said to have used it in military operations in 1249,[26] about the time that, in all pro-

[25] 'History of the Royal Navy,' i. 79.
[26] Hallam's 'Middle Ages,' i. 334.

bability, it was discovered by Bacon. It does not appear to have been generally adopted as an appliance of war before the succeeding century, when mortars, the embryo of our present ordnance, were invented. Several of these engines were used by Edward III. at the battle of Crecy, in 1347, and it is believed that the French army were provided with similar artillery, but, from hurry and mismanagement, did not bring them into action.[27] Their cumbrous make, indeed, and the difficulty of transit, were obstacles to their general application; and for a long period they were sparingly used. Towards the close of the fourteenth century, the French introduced fire-arms, which, though originally unwieldy and ineffective, were subjected to rapid improvements, and gradually changed the whole character of military operations.

Roger Bacon invented the magic lantern, which strengthened the opinion, so characteristic of the age, that he was an adept in the black art; and on this charge, two successive Popes committed him to prison, though he had previously been protected and encouraged by Pope Clement IV. His optical studies were no less successful than his experiments on explosive

[27] Hume's 'England;' Edward III.

compounds, and he was foremost in ascertaining the properties of the concave and convex lens, in defining the focus in concave mirrors, and in laying down the principles of perspective. Looking at what he accomplished and what he believed, we may, perhaps, echo the opinion of Voltaire, and describe him as 'gold encrusted with the dust of his century.'

The credulity of the human mind on the subject of magic was never more strongly marked than during the middle ages; and the imputation which was cast upon Bacon, attached equally to Albertus Magnus and his pupil Thomas Aquinas, though they, like the English philosopher, were both monks. Were we to believe what is gravely related, these poor friars could command the elements, turn day into night, and change the course of the seasons. Albertus, on one occasion, offered an entertainment to William, Count of Holland; and on the arrival of the Count at his house, on the banks of the Rhine, received him, though it was the depth of winter, and the ground was buried in snow, in his garden, where the table was spread for their repast. This was not very agreeable to the Count and his attendants; but they had no sooner taken their seats, than by a wave of his hand Albertus cleared the sky, brought forth the meridian sun,

invoked a soft zephyr from the warm south, liberated the frozen river from its icy bonds, clothed the naked trees with foliage, and filled the air with the melody of birds. It may well be supposed that the guests no longer objected to their situation, and eagerly partook of the banquet, which, of course, was of the most sumptuous description; but its termination, after a carouse, was the signal for another change, and on a word from Albertus, the sun disappeared, the east wind came back, the birds, the green leaves, the flowing water vanished, and a furious snow storm drove the whole company into the house, glad to shelter themselves under its humble roof.[28]

Pygmalion, we are told, was so charmed by a graceful statue, that he desired the gods to convert it into a woman, and when this was done, made the animated beauty his wife. Albertus Magnus and Thomas Aquinas produced a brazen figure, which met with a different fate; for when, by their joint skill, they had endowed it with life, and appointed the young woman their housekeeper, she proved such an incorrigible scold, that one day, Thomas Aquinas seized a sledge-hammer and smashed her into atoms.[29] Albertus was shocked at his pupil's want of temper,

[28] 'Histoire de la Philosophie Hermétique.' [29] Naudé, cxviii.

but expressed no regret at the demolition—perhaps we should say the *murder*—of his statue; and it is not recorded that either philosopher attempted to repair the damage.

Stories no less extravagant are told of Cornelius Agrippa, who flourished nearly three centuries later, A.D. 1500, and was patronised by persons of no less importance than the Emperor Charles the Fifth, Henry the Eighth, and Margaret of Austria, while the brilliant Louise of Savoy, mother of Francis the First, appointed him an officer of her household. These historic celebrities, equally with the common people, were firmly persuaded of the necromantic gifts of Agrippa. The latter prescribes the following formula for raising the Evil One—'*Dies, mies, jesquet, benedoefet, douvina; enitesnaus.*' In one of his historic dramas, Shakspeare introduces the Duchess of Gloucester, wife of the Protector, Duke Humphrey, as witnessing the citation of a familiar spirit by her confederate sorcerers, for which she is arraigned before the King:—

K. Henry.—What tidings with our cousin Buckingham
Buck.—Such as my heart doth tremble to unfold.
A sort of naughty persons, lewdly bent—
Under the countenance and confederacy
Of Lady Eleanor, the Protector's wife,
The ringleader and head of all this rout—

Have practised dangerously against your state,
Dealing with witches and with conjurors:
Whom we have apprehended in the fact;
Raising up wicked spirits from under ground.[30]

Benvenuto Cellini, in his entertaining but marvellous autobiography, describes a similar scene, at which he was himself present, and where a host of evil spirits were raised by a priest. The excited artist furnishes an amusing picture of his terrors:—'I gave myself over for a dead man, seeing the horrid fright the necromancer was in. The boy placed his head between his knees and said, "In this posture will I die; for we shall all surely perish!" I told him that all those demons were under us, and that what he saw was smoke and shadow.' Several of our Plantagenet Kings were believers in, and even practisers of the black art.

While science was thus deformed by quackery or superstition, literature, so long dormant, had risen from its grave, and come again into the light of day. The revival of letters is first marked by the Troubadours, whose thrilling *chansons* at once instructed and humanized the West. In the woody dells and smiling valleys of Provence, where their minstrelsy originated, they caught the inspiration of Nature; and wandering from land to land, and castle to

[30] Henry VI., Part ii. Act ii. 1.

castle, diffused its civilizing influence over Europe. Their ideas and sentiments were especially adapted to the age, and to the existing state of society; while, at the same time, they sought to kindle a nobler spirit, and to direct the mind towards objects hitherto unthought of. Hence they became the oracles, as they were, to a great extent, the creators of CHIVALRY. At this distance of time, it is hardly possible to estimate the effect they produced on popular manners and on the revival of learning; but it is certain that their compositions brought the higher classes to appreciate the immense value of knowledge; and from this period princes no longer thought it beneath their dignity to be able to write their names, and haughty barons learnt to read.

In contributing a new impulse to intelligence, the Troubadours imparted elevation to the human mind by the influence they exercised on social morals. During a long succession of dark ages, mankind had, in spite of the ascendancy of the theocratic element, been as steeped in vice as in ignorance, and humanity and virtue had become extinct. The Troubadours resuscitated those highest qualities of the heart, and depicted in odious colours its cruelty, perfidy, hypocrisy, and selfishness. Thus they laid the foundation of the great social palladium of PUBLIC OPINION.

Their denunciations of individual acts of oppression and wrong, their eulogiums of the wise and good, flew from house to house and mouth to mouth, proclaiming that Might was no longer recognised as Right, and that the weak were not the lawful prey of the strong. The monarch on his throne trembled at their sarcasms; and Henry the Second was so exasperated at the songs of Luke de Barré, a Norman Troubadour, that, on taking him prisoner, he barbarously put out his eyes. The Earl of Flanders sought to divert the monarch from this atrocity, but he furiously exclaimed—'No, sir, no! this fellow, a wit and a minstrel forsooth, hath made me the subject of his ribald songs, and raised horse-laughs at my expense; and since it hath pleased God to deliver him into my hands, he shall not escape unpunished.'[31]

The poor Troubadour was avenged by a brother minstrel, Bertrand de Boru, who is said by Dante, in the *Inferno*, to have been the great instigator of Henry's two sons, Richard and John, in their unfilial conduct to their father. Bertrand also made love to the monarch's daughter, the beautiful princess Eleanora, and, describing her various perfections in one of his *chansons*, he boasts that *she can read!*[32] Learn-

[31] 'Ordericus Vitalis.' [32] Count Thierry.

ing had again taken root; and at the close of the twelfth century the Princess Royal of England was taught her letters.

The Troubadours, treating of things and persons around them, of the actual manners and condition of society, drew literature out of the swamp of theology, in which it had been so long immersed; and, as a twin art, the Drama partook of this extrication, emerging from the same abyss. For a thousand years the stage of ancient days had disappeared, and its place had been supplied by crude representations of Scriptural incidents, bearing the name of *Miracles and Mysteries.* In the twelfth century, after the Crusades had revealed the more polished civilization of Constantinople, attempts were made in the Western courts to revive the regular drama; and though the accessories were of the humblest description, they inaugurated a movement which has never expired. In 1155, an original tragedy called *Flaura and Marcus*, by the Abbot William of Blois, was performed at the English court, before Queen Eleanora, consort of Henry the Second;[33] and gradually the introduction of scenery and appropriate dresses, with new developments of incident and dialogue, gave back to the world the art of Thespis, and, from

[33] Petrus Blesensis.

this rude beginning, brought us to the mighty creations of Shakspeare, and the perfection of modern theatres.

But the influence of the Troubadours is most apparent in the new direction they gave to poetry. In the fourteenth century, the lyre of Italy, so long silent, again awoke, and answered the *chansons* of the Provençal bards with notes of fire. Dante and Petrarch arose, almost simultaneously, inspired by the same spell of love and beauty. Dante was but nine years of age, when his fervid heart and divine imagination were fascinated by the charms of Beatrice Portinari, herself but eight.[34] This favoured child would indeed appear to have been a miracle of beauty; for Boccaccio, who had seen her, affirms that 'she was so graceful and lovely, and possessed so ingenuous a countenance, that she might be taken for an angel.[35] She is thus described by Dante himself:—

> 'If all that hitherto is told of her
> Were in one praise concluded, 'twere too weak
> To furnish out this turn. Mine eyes did look
> On beauty such as I believe, in sooth,
> Not merely to exceed our human, but,
> That, save its Maker, none can to the full
> Enjoy it.'[36]

The enchanting maiden, so passionately loved,

[34] Life of Dante. [35] Ibid.

[36] Paradise.—Simpson's Translation.

had but a short career on earth, dying at the age of twenty-five; but she lives for ever in the imperishable verse of her lover, who, through all his vicissitudes and misfortunes, remained faithful to her name.

Dante's *Vita Nuova* was especially dedicated to the praise of Beatrice; and recounts, in a series of sonnets, the incidents and phases of his passion: But he has introduced her to all mankind in his *Divina Commedia*, where she conducts him through its awful scenes as a guardian angel, personating Theology and Grace. This is the great work which forms the pedestal of Dante's fame. In its conception, there is something that reminds us of the theological poems of the previous century; but it is rather a colouring than an element, as if he found himself on the common highway of Parnassus, and travelled on as a matter of course, yet was the first to discern the scenery through which he passed, and catch the impress of its sublimity. The *Divina Commedia* comprehends three sections, severally relating to Hell, Purgatory, and Paradise. The infernal domain is divided into regions, varying in horror, and apportioned to wicked souls according to their degrees of guilt. Dante, lost in a forest, meets with Philosophy, typified by Virgil, who conducts him through this gloomy world, intro-

ducing him to all its notables. In one region he meets with Socrates, Plato, and the wise and great of old; in another the celebrities of European history; in others the prominent characters of his own day. The action includes the past, the present, and the future; but it especially applies to the events and politics of the period, which were of the most stirring kind, and in which, as a prior and notable of Florence, Dante was largely mixed up. All is worked out with a grandeur in keeping with the conception; and the thoughts and imagery have a breadth, a vastness, which, in the successive stages of the poem, bring visibly and powerfully before the mind the shadows of Hades and the torments of the damned. The poem is remarkable for the harmony of its design and the felicity of its execution, and deservedly ranks as a masterpiece of human genius.

Petrarch succeeded to the mantle of Dante, but his poems, while they retained the sublimity, had none of the gloom of his precursor, and it has been well observed that Dante engaged the soul, and Petrarch the heart.[37] If Dante was the founder of the modern epic, Petrarch may claim the high merit of having wholly severed it from theology, and introduced the historic

[37] Ugo Foscolo.

element. His poem of *Africa*, written in Latin, is founded on the Punic war, and traces the fortunes of the conquering Scipio through his contests with Carthage and Numidia. His *Eclogues* are inferior compositions, and, from being, like *Africa*, written in a dead tongue, are not widely known. The modern reputation of Petrarch, indeed, is sustained by his sonnets, which are perfectly unique for sweetness of tone, elegance of diction, depth, and tenderness. Like Dante, he was attracted to the Muses by love; and who is there that has not heard of Laura? Yet the object of this romantic passion was a married woman, and Petrarch, who made the world resound with her praises, was a priest. So strange are the phases of destiny, and to such complications do we owe the most impressive effusions of the human mind.

But Petrarch was a scholar as well as a poet, and, both by his example and writings, laboured to revive a taste for classic literature, and to multiply copies of ancient manuscripts. Even as a student, he possessed a number of these precious works; and Leonard Simpson, in his interesting *Literature of Italy*, shows how much we are indebted to him for their preservation. In the same work we find a story of Petrarch's father, who was anxious that he should confine

his studies to the law, and one day entering the student's room in his absence, he piled his hoarded treasures on the fire, in the hope that, by burning the books, he should convert the scholar. Just as the flames arose, Petrarch made his appearance, and evinced such despair at his loss, that the tender father, forgetting his anger, thrust his hand into the fire, and severely burnt himself in extricating some of the manuscripts.[38]

The same century and classic land which produced Dante and Petrarch gave birth to Boccaccio, who, like them, exercised a paramount influence on the literature of the middle ages, imparting a colour to that of England, of France, and of Spain. He has justly been pronounced the father of prose composition, and from the moment that his works came into circulation, the barbarous diction previously in use began to disappear. His *Decameron* obviously furnished the famous Marguerite de Valois with the model of the *Heptameron*, and several of its tales were versified by Chaucer, and afforded plots for the dramatists and novelists of every European nation. Boccaccio, at a later period of his life, regretted its publication,[39] but too late to retrieve the error, as innumerable copies had been made,

[38] Simpson's 'Literature of Italy.' [39] Ibid.

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and the work was already known wherever letters penetrated.

The literature of the time owed much to the encouragement it received from the governments of both France and Italy, which, amidst endless wars and troubles, kept in view the value of knowledge, and the duty of civilizing and instructing society. Such were the auspices that eventually resuscitated the Muse of History. In the thirteenth century, Jean, sire de Joinville, a vassal of Navarre, opened the historic roll with the *Life of Saint Louis*. He was followed by Froissart, whose *Chronicles* are so widely known; and Philippe de Commines, in the succeeding century, produced that noble work, which entitles him to be considered the father of modern history. But the rulers of France and Italy did not confine their encouragement to the chroniclers of passing events. Poetic crowns were presented to successful bards, with all the imposing honours of a public ceremony; and as the fourteenth century bestowed this distinction on Dante and Petrarch, the sixteenth, as we shall see hereafter, awarded it, with equal judgment, to Ariosto and Tasso.

The revival and diffusion of letters necessarily promoted the restoration of the other fine arts; and, as intelligence spread, we observe a growing

taste for painting, sculpture, and architecture. The last, fettered by immemorial models, made the least progress, still clinging to the Gothic pattern, though it was sensibly relieved and modified. Painting is mentioned as early as the fifth century, when St. Leo, on his accession to the papal chair, caused a series of portraits to be executed of the successive Popes from the time of St. Peter, in order to establish the apostolic chain. But for several centuries the art remained stationary, and was purely mechanical, violating every principle of composition, in drawing, proportion, and perspective. Painters but imitated the performances of Greek workers in mosaic, a craft which, during the long sleep of the fine arts, had, to a great extent, taken the place of that of the easel. The most successful productions were miniatures, executed on parchment, or in the missals of monkish artists; but in all the elements of art — in truthfulness, perspective, and symmetry—these primitive efforts were ludicrously deficient. Sculpture advanced with more rapid strides. The carving of altars and screens, and of rude images for shrines, imparted, by degrees, a more delicate touch to the sculptor's hand, and his cunning was enlarged by habit and practice. In the thirteenth century, Niccola Pisano pro-

duced a beautiful urn, which approached the excellence of the antique, and procured for the skilled artist the appellation of 'Nicholas of the Urn.'[40] The great altar of San Donato, at Arezzo, which cost thirty thousand gold florins, and the *Last Judgment*, in the cathedral of Orvieto, are among his subsequent works;[41] and are famed for their power, breadth, and grouping. He also executed one of the bronze gates of San Giovanni, at Florence, a task which occupied him twenty-two years—time, indeed, well expended, since for intricacy, massiveness, and variety of composition, this work is truly admirable. It was, however, surpassed by one of his pupils, the celebrated Ghiberti, who, in a succeeding generation, produced a companion fabric for the same church, which Michael Angelo pronounced to be worthy to form the gate of Paradise.

Art had now become popular, more particularly in Italy, where, rising as from a grave, it was, as it were, born again in the bosom of the Church. Sculptors and painters abounded, and their successive works gradually exhibited more expertness, if not more precision. Amidst the growing crowd, the figures of Giunta, Cimabue, and Giotto, stand prominently forward, as the promoters and pioneers of progress, the

[40] Lanzi's 'Hist. of Painting,' i. 1. [41] Ibid.

judicious founders of a new school. Giunta, who led the way on this great track, flourished about 1230. His pictures are the first to show a correct perception of the human figure, the colouring is vivid, and the disposition of drapery, so harsh in contemporary compositions, is generally not void of grace. Cimabue, born in 1240, is supposed to have been a pupil of Giunta's.[42] If such he were, in some points he surpassed, in others he was inferior to his master. He was a diligent student of nature, and threw much character into his heads of saints, but failed to catch the soft delicate lines of the female face. His grouping and drapery are forcible, but wanting in flexibility; and they arrest, without charming the eye. Giotto was a sculptor, as well as painter, and for a long period the two arts were often combined, the same hand practising both with success. Giotto carried the statuary into his pictures, and his figures exhibit a stiffness and rigidity which partake as much of the chisel as the pencil. Yet, spite of this constraint, they mark a decided advance in painting, a more faithful delineation of nature, greater vigour of conception, invention, and composition; and we see the mechanical art of ruder times sinking in the ideal of the antique.

[42] Vasari's 'Lives,' p. 17.

The Pontiffs and Princes of the period extended to art the same munificent and generous patronage which they awarded to literature, and the family of the Medicis of Florence, were its special protectors. At the polished court of Lorenzo the Magnificent, it was customary, as will be shown hereafter, to render the highest honour to philosophers, poets, painters, and sculptors, and the palace of the Florentine prince was at once an academy, a studio, and an Arcadia. Nor did artists fail to associate together for mutual assistance and encouragement. In 1349, twelve years after the death of Giotto, the Florentine painters founded a fraternity, called the Society of St. Luke,[43] in honour of the learned Evangelist, who, on what grounds does not appear, is said to have been the first Christian painter. Here we have the exemplar of our Royal Academy, though the Society of St. Luke comprehended a crowd of artisans, whose crafts were only subsidiary to painting; and a society established at Venice, with a similar name and object, included among its members, gilders, basket-makers, saddlers, armourers, and scabbard-makers, all of whom bore some relation to the art, which was applied to walls, screens, shields, housings, and armorial badges.

[43] Lanzi's 'Hist. of Painting.'

But painting was raised out of the mechanical process by a great discovery, which materially expanded its sphere, and transferred it from walls and panels to the more genial material of canvas. In 1410, John Van Eyck, an artist of Bruges, acquired the secret of painting in oil,[44] thus giving to the fragile creations of the brush the durability of marble. He communicated the invention to Antonello da Messina, who in his turn confided it to another artist, named Domenico; and the latter was induced to reveal it to Castagna, a painter of Florence. His confidence was barbarously requited, for Castagna, anxious to reserve to himself the glory and profit which would attach to the new system, had no sooner mastered the secret, than he desired to be without a rival, and contrived Domenico's assassination.[45]

Yet, at first, painting in oil was far from being appreciated. Michael Angelo Buonarotti, who had just displayed his wondrous genius, regarded it with contempt, considering the fresco mode infinitely superior; but though he inaugurated a new era in art, this great artist painted little, directing his attention chiefly to sculpture. He followed in the steps of Giotto and Leonardo da Vinci, but his great preceptor

[44] Lanzi's 'Hist. of Painting.' [45] Vasari.

was Nature; and in order to acquire a perfect mastery of the human form, he devoted eight years to the study of anatomy. Thus trained in its delineation, he was fond of introducing the nude figure, to a degree not usually practised; and this led to his choosing, from a variety of stirring incidents, a bold but striking situation in his famous cartoon of the battle of Pisa, in which he depicts the moment when the eager enemy fell on the Florentine van, as they were bathing in the Arno, and produces a magic effect by the *mêlée* of naked men and steel-clad soldiers. His cartoon of the *Last Judgment* comprised so many nude forms, that the papal Master of the Ceremonies declared, in the hearing of the Pontiff, that it was more suitable for a bagnio than a church.[46] Michael Angelo avenged himself for the criticism, by introducing the courtier into the picture in the equivocal character of Minos. This did not hush the tongue of censure, and remarks continued to be made, till Pope Paul IV., with more piety than taste, engaged Daniel de Volterra to distribute among the figures a moderate allowance of drapery, whence the artist acquired the nickname of *the breeches-maker*.[47] Michael Angelo had certainly

[46] Lanzi's 'Hist. of Painting.'

[47] Let. Pitt. iii., Rosa Sat. iii. 85.

entered on a path previously untrodden, which might shock a fastidious, and sometimes a refined mind. His figures were nervous, vigorous, and muscular; his attitudes bold; his foreshortenings new and startling, and his whole composition, particularly in sacred subjects, replete with vivacity and expression. In sculpture, he was even more successful than in painting. His figure of Moses, on the tomb of Julius II., at Vincoli, and his statue of Piety, are the noblest productions of human art, and, as they strike the eye, all but live. His colossal David is equally fine, and revived the lost glories of ancient Greece.

It is remarkable that Italy should have produced at this time a galaxy of illustrious artists and authors, all either contemporaries or rapidly succeeding each other, as if her genius were once more rising in its might to illumine and dazzle the world. It seems to be one of the phenomena of the human mind, that it should thus, at certain periods, burst forth with sublime splendour in a particular region, and then as suddenly expire. Italy indeed was now to maintain for a long time her repute as a school of art, but in these last centuries of the middle ages she put forward characters such as she has never since produced, and who were worthy of the proudest

days of imperial Rome. Those wondrous men still appear as giants, astounding us by their intellectual stature, their attainments, and their productions; and it must remain a mystery how a land so fruitful of greatness under disasters and adversities, and when intelligence was at a low ebb, should, in the subsequent rapid progress of society, be left so far behind.

Michael Angelo has been included among the four great founders of modern painting,[48] thus taking rank with Raffaelle, Titian, and Correggio. But the art-crown must be awarded to Raffaelle, who raised painting to its highest perfection. He was the contemporary, and, as a consequence, the rival of Michael Angelo, and, in his rare gifts, equalled, if he did not surpass, that illustrious man. The pictures of his second style, and more particularly his historical paintings for the Vatican, are unapproachable in their delicacy of touch, felicity of conception, force, expression, and grouping. One of his most conspicuous qualities was grace, which he not only embodied in the figures, in the limbs and outlines, but expressed in the countenances of his characters, throwing it into their very looks and gestures. He thoroughly understood the new practice of foreshortening, and, in his delineation of the

[48] Baldinucci.

human form, was as accurate as Michael Angelo, without ever sinking into the anatomist. His last picture, depicting the *Transfiguration of the Redeemer*, is one of his most masterly productions, and exhibits the principles of art in their highest development and aspect.

Painting had just attained this excellence, when the invention of engraving on wood and copper furnished art with new accessories. Engraving on wood, now executed with so much finish, was first practised in a very rude manner, and attracted so little notice at the time, that we are unable to name its inventor. Germany and Italy equally claim the discovery, which, in the first instance, was applied exclusively to playing cards, and these were produced in both countries about 1440, when the process is said to have been invented. Engraving on copper may be traced to almost the same date. The invention seems to rest with Maso;[49] and the epoch, after much dispute, has been fixed at about 1450; but the process and effects were greatly improved by artists of the same century, Montagna, Raimondi, and Albert Durer. But the value of engraving as a missionary of art could not be understood in that rude age; it is only within the last hundred years that it has made any decided progress;

[49] Vasari's 'Lives.'

and not till the present day, when it brings under the eyes and into the dwellings of the humblest class, the most exquisite productions of the studio, has its mighty capabilities been appreciated.

Yet, almost as it was discovered, the process of wood engraving piloted the way to another invention, which at once came into full operation, exercising an influence as wide as society itself. From the successful execution of playing cards, engravers were led, in the second stage of the art, to represent the figures of favourite saints, accompanied by a page of illustrative text, which, for the convenience of working, was cut on the same block; and this suggested to an ingenious German the contrivance of moveable types, made of metal, and worked in a press. Here the human mind conceived its happiest thought, and gave to mankind its noblest conquest. Fust, the artisan of Mentz, aimed at a little mechanical triumph, and he became a benefactor to his species. The first gift of his press foreshadowed its future mission: it was the Vulgate, or Latin version of the Bible, printed in 1452.[50] Now indeed society caught the gleam of a new light: human intelligence had received an irresistible impulse; the dark ages were at an end.

[50] De Bure, i. 30.

IV.

DISCOVERY, ART, AND INVENTION.

THE thousand years of the middle ages were not a total eclipse. Even in the fifth century the human mind had risen erect, standing, like Moses in Egypt, between mankind and night. Gradually it emitted fresh scintillations, struck out new paths, groped its way to loftier heights. Now misled, now driven back, it still persevered, battling and struggling, developing its capabilities by each effort, presenting a spectacle worthy of its Maker. In later times, it has made prodigious strides, but they seem as nothing when compared with the painful initiation, the prolonged and often fruitless labours, of that benighted period. We feel a strange interest in watching this growth, and, as it were, education of our species—in seeing man thus train and draw out his faculties, and become the instrument of his own elevation. What testimony could be desired of our divine origin and eternal destiny, when it is here demonstrated by a law of progress, seemingly dependent on human im-

pulse, yet exhibiting, at the same time, the directing influence of a Supreme Intelligence, pursuing the one purpose through successive centuries, and shaping everything to the same appointed end.

In this onward march of intellect, one thing is especially remarkable—that every discovery that human research or human ingenuity has hit upon, every acquirement and every invention, has been a work of time. Our conceptions do not reach perfection at once, but come forth as a crude idea, as an embryo, and are matured by degrees, often at considerable intervals. Each new discovery has had, as it were, a dawn and a morning, before the mind was brought into the full light of day. Here we trace the great distinction between the operations of instinct and of reason. With the one, intelligence is communicated by a flash, which instantly effects its errand, but never advances: with the other, the process is slowly conceived, and studiously elaborated, remaining susceptible of continual extension. Man builds up his attainments, as a bird its nest, leaf by leaf and twig by twig, and often does not perfect his inventions till after repeated failures and ages of painful experiment.

Successive steps brought Fust from wooden

blocks and cuts to wooden letters, and then to metal types and a press. Mechanical contrivances of an earlier date were not matured till the same time, and among these may be included the mariners' compass, which, though the gift of the middle ages, may be properly mentioned here, because it was not till the close of the fifteenth century that it came into general use, and proved a talisman to human enterprise.

The Chinese are said to have been acquainted with the precious secret more than two thousand years before this epoch, in the reign of the Emperor Tschingwang, B.C. 700, but the first indication of their knowledge of magnetic power occurs in the fourth century of the Christian era, when Chinese junks conveyed the needle to India. Thence it travelled to the Arabs, by whom it was introduced into Europe, but it was not applied to navigation till the commencement of the fourteenth century, when Flavio Gioia, a citizen of Amalfi, improving on the ideas of the famous Raymond Lully, invented the mariners' compass. By such slow stages was this wondrous discovery consummated!

Mechanics were equally dilatory in devising a more simple aid to navigation, the means of

measuring time. Europe had not only failed to advance on the horology of the ancients, but had actually retrograded, so that the art of making the most primitive instruments was lost; and our great Alfred, in dividing his day into three distinct portions, resorted to the expedient of burning tapers of a particular length to mark the flight of the hours.[1] Dialling, understood at Jerusalem in the reign of Ahaz, B.C. 700, was now forgotten; and Charlemagne received from the Caliph Haroun Al Raschid a present of two water-clocks, as the highest achievement of Asiatic science.[2] About the middle of the fourteenth century, some unknown mechanician produced an instrument composed of a train of toothed wheels, regulated by a fly, like that used in a kitchen-jack, and turning a single hand round an index of the hours. This was not altogether a new contrivance, but an amalgamation of separate inventions, brought into one fabric; and it was soon succeeded by a more perfect machine, in which the time was regulated by a balance, invented by a German artist, named Henry de Wyck. The new clock was purchased by Charles V., King of France, and erected in a tower of his palace in 1354. The balance suggested the scapement, and was ulti-

[1] Hume's 'England.' [2] Gibbon's 'Decline and Fall.'

mately superseded by the pendulum, ascribed by some to Caspar Doms, and by others to Galileo, who is said to have introduced it as late as the year 1600. Dante mentions a clock that struck the hour,[3] which must have been anterior to that of Charles the Wise, as the poet died in 1321. In the reign of Richard the Second, 1380, an astronomical clock was constructed in England by Richard of Wallingford, the son of a smith, and afterwards abbot of St. Alban's, but it was probably no material advance on that of De Wyck. There is no record of the first fabrication of watches, but they were used in the early part of the sixteenth century; though from the absence of a pendulum spring, and of a second hand, their mechanism was so imperfect, that, like the celebrated watch of Captain Cuttle, they were allowed a range of twenty or thirty minutes in the twelve hours.

Gaspar Visconti, an Italian poet, addresses a sonnet to his watch at the close of the fifteenth century. This is the first positive mention of watches. But these miniature registers of time advanced to their present perfection by slow degrees, and in the reign of Elizabeth a watch was still the size of an ordinary dessert-plate. Harrison, Bernoulli, and Arnold, who all

[3] Paradiso, c. x.

flourished in the eighteenth century, perfected the mechanism of the watch, and, by their several inventions, furnished mariners with the chronometer.

Wanting the chronometer and compass, navigation had continued to be regulated by the observance of the stars, and by the aid of rude charts, hoarded with jealous care, and continually augmented and improved. It may have been the constant study of charts that led Columbus to the idea of crossing the Atlantic. While staying at Lisbon, he was in the habit of attending the chapel of the convent of All Saints, and here formed the acquaintance of a Portugese lady of rank, named Doña Felipa, the daughter of one of the maritime captains of Prince Henry; and a mutual attachment springing up, Columbus became her husband. This step put him in possession of the routes and papers of the deceased navigator; and for some years he obtained a subsistence by the sale of charts, which these data and his own nautical experience enabled him to delineate.[4] His biographer records the fact; but, in tracing the operations of his mind, overlooks the influence which an employment so congenial must have exercised on so alert an intellect. Whatever

[4] Irving's 'Life and Voyages of Columbus.'

impression it may have engendered, other circumstances undoubtedly contributed to give it permanence. The court of Portugal was now considering the practicability of a route to India round Africa, and Columbus himself made several voyages to Guinea, the furthest point yet reached, but without engaging in the object. His watchful eye, however, took cognizance of things that others passed unheeded; he diligently collected information at every place he visited and from all navigators with whom he came in contact; and taking for his basis the theories of the ancients and the suggestive reports of Marco Polo and other early travellers, he came to the conclusion that the earth was a terraqueous globe, which might be circumnavigated from east to west, and that men stood foot to foot when on opposite points.[5] Finally he conceived that India would be soonest reached by sailing west, and that the ocean, so long unexplored, washed the shores of Asia.

What an episode in the march of the human mind is the history of his discovery! Apart from the influences exercised on the progress of knowledge and the destinies of mankind, it presents the most sublime example of the perseverance of genius under difficulties that imagination can conceive. If we could trace the story

[5] Irving's 'Life.'

through all its stages, we should see every faculty of the understanding brought into play and every moral quality exercised. The idea first rising in the mind, vague and indistinct, leading to years of profound thought, earnest and prolonged inquiry, several voyages to the limits of the known world, incessant observation of natural phenomena and careful accumulation of facts, finally resulting in a settled conviction which nothing could disturb. Then the tenacity with which the theorist clung to his purpose, his patient attendance on Princes, his endurance of a thousand repulses and rebuffs, ever in a state of suspense, alternating between hope and despair —now, by a royal caprice, invited to unfold his project, now treated as a madman, and all the time pinched by poverty and debt—such are some of the points of this marvellous tale. The struggle that could not break down the wondrous vigour of his character, had an effect on his person, and we are told that his hair had become quite white at thirty,[6] yet he had still to battle through twenty-four years—a quarter of a century—before his probation would expire. Then the gentle hand of Isabella raised him up, and the glory of equipping him for his enterprise must be given to a woman.

The expedition consisted of three small ships,

[6] Las Casas' 'Hist. Ind.'

of which only one was decked; and sailed from Palos, a port of Spain, on the 3rd of August, 1492. Gomera, one of the Canaries, was reached on the 9th, and after a delay of a month, the little squadron quitted that last outpost of civilized man, and pushed into the unknown ocean. For a week it sailed on with nothing to excite misgiving, except the apprehensions kindled by uncertainty, and inseparable from the exploration of a sea, which, far as the voyage had advanced, still seemed without a limit. But on the 13th of September Columbus became cognizant of an extraordinary phenomenon, which had never previously been noticed. This was the variation of the compass, his only guide on the pathless deep. After an interval of three days, it was discovered by the pilots, and they were unable to conceal their alarm. Meanwhile, Columbus had endeavoured to ascertain the cause of the mysterious variation, and arrived at the conclusion that the needle was not, as supposed, directed to the North-star, which was evidently itself in motion, but to some point not exposed to the eye, and which was always stationary. The phenomenon is indeed yet unaccounted for, baffling the penetration of modern science; but the explanation of Columbus satisfied his pilots, and their con-

fidence was restored by the courage and the apparently boundless knowledge of their commander.

Auspicious weather favoured the voyage, and they continued their course over placid waves, sparkling in the fervid sunshine, and cooled by refreshing breezes. But so fanciful is the human mind that this very alliance of the elements excited gloomy forebodings, and it was thought that the breezes which wafted the ships on their way, and appeared to keep always to the same point, would prevent their ever returning. In the height of the alarm, the wind fortunately veered: they had emerged from the track of the Trade Winds, and that beautiful arrangement of nature had yet to be brought to light.

Day after day the ships came constantly upon floating weeds, branches of trees, and other indications of a neighbouring shore: flocks of birds breasted the waves, or careered through the air; clouds on the horizon presented the illusion of bluff coasts and towering mountains; repeatedly calling forth the joyful cry of 'Land, land!' till the hearts of all, crushed by such frequent disappointment, refused any longer to hope, and a secret conspiracy was formed to throw Columbus overboard, and return to Spain.[7] The Admira

[7] 'Hist. del Almirante,' c. 19.

was not ignorant of his danger, but remained strong in his purpose, and confident that it would soon be accomplished. In imagination we may watch him climbing at night to the mast-head, and bending his anxious eye on the quarter he had so often scanned. All is still blank and void—all unbroken darkness—when suddenly he discerns a twinkling, flickering light. Hardly can he believe his senses; but another mariner, and then others, confirm the fact. The torch that flashes on the deep burns in a new world!

Land was seen at the break of day, on Friday, the 12th of October, 1492; and proved to be one of the group of the Bahamas, on the coast of Florida, and to which Columbus gave the name of San Salvador.[8] Other discoveries were successively made, and, among them, the important island of Cuba, which Columbus believed to be part of the mainland. On his homeward route he visited Hispaniola, and in a later voyage discovered Honduras and the Mosquito coast, and, failing to open any strait, came to the conclusion that the new continent extended far to the south, beyond the equator, and was washed by a still unexplored ocean.[9] This was no dream: south and west of the outstretched

[8] 'Life and Voyages of Columbus,' iv. 1. [9] Ibid. viii. 4.

land lay the vast Pacific, which was not discovered till 1526, when Francisco de Hoces, commanding a ship in the expedition of De Loaysa, rounded Cape Horn. The coast of America was now laid down from Hudson's Bay to the Pacific; Vasco de Gama doubled the Cape of Good Hope; Magellan and Sebastian de Elcano, in 1522, effected the first circumnavigation of the earth; and the later voyages of Drake, Tasman, Van Diemen, and Cook opened the southern world. It was reserved for our own age to complete the circle of geographical discovery by scouring the Arctic seas, and in 1855 H. M. S. 'Investigator' solved the long-disputed problem of their configuration, and established the fact of a north-west passage.[10]

Englishmen have borne a distinguished part in the exploration of Africa, which presented insurmountable obstacles to both the ancient and modern world, opposing every advance into the interior with deserts, impassable marshes, scorching heats, and disease. But, following the route opened by Dr. Burchell, Gordon Cumming, and Andersen, and pushing over every barrier, Dr. Livingstone has now drawn a highway from the western to the eastern coast; Bruce traced one

[10] 'Personal Narrative of the Discovery of the North-West Passage.'

of the sources of the Nile; Richardson, Barth, and Vogel have penetrated the north; and a railroad and a British post are established on the north-east. Surely the day is not distant when Africa will hail the approach of civilization.

The importance of the early discoveries can now hardly be estimated, because our minds are so familiarised with the length and breadth of the earth, that we cannot understand the effect of the dawn of such ideas, and their gradual development. It is certain that they communicated an impulse to all Europe, and quickened the whole fabric of society. They opened vast regions to enterprise and commerce, and, at the same time, gave to science the wonders of a new hemisphere. Astronomy, just waking from its sleep, was especially benefited by the acquisition; and mariners hailed with delight the constellation of the Southern Cross, which met their gaze on the Equator. As they advanced, they caught sight of the Nebulæ, called, from the famous navigator, Magellanic clouds, which awaken in the beholder such mysterious awe—a feeling I could not repress, when they first rose before me in the same latitude. Then came the coal-bags, or black tracts near the south pole, where the heavens, elsewhere so thickly studded with orbs,

appear in naked darkness, unbroken by a single star. The four stars of the Southern Cross at the foot of Centaur had been observed by the primitive astronomers of Chaldea and Egypt, though not in their cruciform phase, which can only be obtained within certain degrees; and the two Nebulæ, now resolved into stars, were noted as 'clouds of light' by the sages of Arabia. But the coal-bags were a phenomenon differing from anything before seen, and seemed, in an unlettered age, to present the stupendous spectacle of a vacuum in nature.

The epoch exercised a marvellous influence on the advancement of knowledge. Within half a century of the departure of Columbus on his memorable voyage, the human mind had made greater strides and solved mightier problems than the experience of thousands of years could parallel. We have glanced at some of its triumphs in the invention of printing and the mariners' compass, the revival of sculpture and painting, and the discovery of the New World; and we have now to note, as coincident with these great events or consequent upon them, the invention of the telescope, the sublime researches of Copernicus, Galileo, and Kepler, the mighty movement of the Reformation, the philosophy of Bacon, and the divine labours of Newton. Art

and literature will also demand a glance, and present a catalogue of names worthy to rank with the noblest spirits of antiquity.

The philosophy promulgated by Bacon was practically anticipated by Copernicus. The Polish astronomer, accustomed to mathematical analysis, caught the idea intuitively, and brought it to bear on the mechanism of the skies. His logical mind could not be satisfied with the manifold contradictions of the Ptolemaic astronomy; and, surveying the heavens with a scrutinising eye, he sought to dispel his doubts by personal researches. His attention was soon attracted by the motions of Mercury and Venus, which, after repeated observations, he found to be in permanent attendance on the sun, and in such complete sympathy with the mighty orb, as to share its movements, and keep always within a prescribed distance. Closer observation revealed the great truth that their oscillations, thus directed, were uniform, and, in fact, described a revolution round the solar body, in orbits strictly defined. Hence the sun became a superior power, regulating the movements of two of the planets; and if of two, why not of all? Then the earth itself, which appeared so steady, must be in motion; it must be sweeping with the other planets round the magnificent luminary, which

dispensed light and heat to each, and which, in power, in splendour, in magnitude, formed the proper centre of such a system. Long he meditated on the sublime hypothesis, so opposed to the traditions of science and the dogmas of religion—so offensive to the prejudices and superstitions of the age; but the longer he pondered, the more he was convinced, and, at length, he ventured to announce his conclusions. The conjecture of Pythagoras was now established, and the world heard with astonishment that it was in motion.

The same course of observations led Copernicus to a solution of the true character of the moon. A comparison of her movements with those of Mercury and Venus, revealing a marked difference, proved that she did not, like them, revolve round the sun within the orbit of the earth; and, on the other hand, her track exhibited a corresponding variation from that of Jupiter or of Saturn, whose orbits were exterior: so that it was impossible to rank her among the planets. Diligent scrutiny showed that she was subsidiary to the earth, following its movements and revolving round it, a faithful and eternal satellite, still further attesting the dominating position of the sun.

Copernicus died on the 24th of March, 1543,

a few days after the exposition of his theory, entitled *De Revolutionibus Orbium Celestium*, was given to the world. He had sapped the foundations of the Ptolemaic system, but left its unwieldy superstructure almost untouched, and the planets still revolved in circular orbits, only moving round the sun, instead of the earth. Kepler discovered the real direction of their movements, and, after eight years of unwearied study, arrived at the conclusion that 'planets revolve in elliptic orbits about the sun, which occupies the common focus of all these orbits.'[11] The ellipse, though differing but slightly in form from the circle, possesses properties wholly peculiar; for while the circumference of a circle is always the same distance from the centre, and the diameter of an ellipse is invariably unequal, each end of the longer axis of an elliptic curve presents a remarkable point, called a focus, whence two right lines drawn to any point in the circumference, become together equal to the longer diameter. In this focus Kepler placed the sun, and, with rapt gaze, observed the planet, as it revolved round the luminary, steadily adhering to the curve of the ellipse. Thus he elicited the law which applied one pervading curve to the whole solar system, the focus

[11] 'Astronomical Discoveries of Kepler.'

of each orbit being occupied by the sun; and a new proof was brought forward of the simplicity and beautiful harmony of nature.

Up to this period, the notion of the ancients that the orbits of the planets were solid, sustaining each orb in its sphere, had universally prevailed, being acccepted even by Copernicus; but, on the promulgation of Kepler's law, the celebrated Tycho Brahe announced that they were purely ideal, and that every celestial body moved through air, which pervaded all space. Yet the noble Dane could not wholly free himself from the shackles of Pythagoras, and believed that the revolving planets might elicit from the resisting medium a succession of tones, constituting the *Harmony of the Spheres.* Tycho and Kepler were contemporaries, and, as the latter emerged from obscurity, they worked in concert, and, together with Galileo and Bacon, shed a halo over the sixteenth century. But, as the legislator of the heavens, Kepler stands alone. After incredible application, he had ascertained the form of the planetary orbits, and the law for computing a planet's place, and he now entered on one of the most extraordinary investigations ever pursued by the human mind. Tycho had conceived that the harmony of the spheres was denoted by sounds: Kepler imagined that it

subsisted in some common principle of union, which, linking them in one compact system, would probably be found in some relation between the orbitual periods of the several planets, and their distances from the sun. Seventeen years were consumed in working out his mighty problem. Could he demonstrate the fact, what testimony would he draw from heaven to the hand of an Omniscient Architect! what an eternal memorial he would establish of God's power and presence! Undaunted by obstacles, he laboured incessantly at his calculations. Again and again he was foiled; again and again he renewed the pursuit. At length, his researches, so long fruitless, were crowned with success; and he elicited the astounding result that the square of each successive planet is to the square of the next in sequence as the cubes of their relative distances, Mars coupling with Jupiter, and Jupiter with Saturn. The sublime heights of science are climbed by steps, and as we gain one eminence, we catch a glimpse of another. Kepler had no sooner discovered that the planets were bound by this mutual relation, than he came to the conclusion that, as one associated system, they must also be subject to some central power, embodying a principle of control; and he was confirmed in his views by observing the influence

of the moon on the earth, revealing to his quick eye the economy of the tides. He imagined—for he put it forth as a mere conjecture—that this property was vested in a higher degree in the sun, which was the dominating body, and that the great luminary exercised a central force over all the planets, pervading and cementing the entire fabric.

The history of the human mind is full of strange contrasts. While Kepler was thus opening a path for the mighty genius of Newton—while he was exploring the heavens, and laying bare their divine foundations—the mass of mankind was sunk in the grossest ignorance; and the philosopher was called from his sublime researches to plead for the life of his mother, whom his brother, her own son, had accused of witchcraft. The trial extended over six years, and as it was clearly proved that the aged woman was unable to shed tears, and had been brought up by an aunt who was burnt for the same crime, it required all Kepler's interest to preserve her from the stake.[12] Witchcraft was indeed the delusion of the age, and though Wierus and Pietro d'Apone endeavoured by their writings to show the folly of the popular belief, it continued to maintain its hold of society,

[12] Johann Kepler's 'Leben und Winken.'

and, sad to relate, lingers among the most civilized communities to the present time. The arguments of Wierus drew forth a reply from no less a person than James I. King of England, who, in his famous treatise on *Demonologie*, not only upheld the existence of witchcraft, but indicated the marks by which an offender might be known. All over Europe witchcraft was held to be a practicable crime. It has been computed that, in the height of the mania, as many as forty thousand persons were convicted of it in a few years, and, after undergoing torture, perished at the stake. Under the Long Parliament, three thousand witches were executed in England; and it is a stigma on the great name of Sir Matthew Hale that, in 1664, he condemned to the stake two poor women accused of this crime. In 1771, a girl only nine years of age was hanged with her mother at Huntingdon, on the same charge; and the Draconic law against witches continued in operation for nearly twenty years longer, when it was finally repealed.

The prevalence of the belief in the supernatural is exemplified by the circumstance of the conjuror Lilly, the pupil of Dr. Dee, being called before the House of Commons, in 1665, concerning the great fire of London, which it was pretended he had foreshadowed, together with the

plague, in a book published eleven years before, embellished with a representation of phantoms digging graves and a town on fire. Lilly affirmed that the engraving really had reference to the events, which he had deduced from the stars; and his rambling, ridiculous statements were received by the House with marked attention. It is a still more curious fact that the great Kepler himself practised astrology, and cast nativities, though only as a means of procuring subsistence; and he apologised to his friends for engaging in such occupations, by explaining that, but for the money they produced, he must have died of starvation!

Society was as obstinate in resisting truth as in clinging to falsehood; and the same feeling which would have condemned Kepler's mother to the stake for not shedding tears, adjudged and very nearly subjected Galileo to the same punishment because he refused to believe in the immobility of the earth. As before remarked, Galileo had, like Copernicus, anticipated the system of Bacon, by throwing off the yoke of Aristotle, and practically adopting the inductive process of reasoning. Occupying the philosophic chair at Pisa, it was part of his academic duty to expound the works of the Stagyrite which for two thousand years had stood un-

disputed; but, instead of holding them up to veneration, he pointed out their errors, showed the fallacy of their conclusions, and enunciated doctrines altogether new. A teacher so bold, and, at the same time, so eloquent, attracted numerous auditors; and in proportion as he became popular with the students, he became odious to the professors. The latter were particularly scandalised at one of his propositions, which repudiated Aristotle's theory of falling bodies, and they forbade its promulgation; but Galileo, not to be silenced by words, challenged them to disprove his statement. The Stagyrite had affirmed that the velocity acquired by any falling body was in direct proportion to its weight; and that if two bodies of different weights fell simultaneously from the same point of elevation, the heavier would descend with so much greater swiftness than the other, as it exceeded it in weight. Galileo, on the other hand, maintained that the velocity of descent would be the same in both, and that the two bodies would reach the ground together. This was the proposition of which he invited disproof; the challenge was accepted; and the leaning towers of Pisa afforded an appropriate stage for the experiment.

The appointed day brought to the spot an immense concourse, eager to witness the issue. On a given signal, two stones of unequal weight were precipitated from the summit of the tower; every eye followed their descent, and a shout arose as they touched the ground at the same instant of time. The professors, the students, the multitude were alike astonished, and could hardly believe their eyes; but the experiment, again and again repeated, still yielded the same result, and demonstrated the fact that Aristotle was not infallible.

Galileo continued his mechanical studies; and investigating the phenomena of falling bodies, and the composition of forces, discovered the beautiful law that a body descends with a swiftness corresponding to the squares of the times; and, secondly, that if it receives a shock which impels it thirty feet in a second on the line of its direction, and is simultaneously subjected to another impulse in a different direction, calculated, of itself, to propel the body forty feet in a second on this new line, the forces will jointly have the effect of moving the body in a direction resolvable from the tendencies of the initial shocks, and the rate of velocity imparted will be fifty feet in the first second. This law is the keystone of mechanical philosophy, and ex-

tends to every moving body, so that the shot which flies from a rifle, and the planet which sweeps round the sun, are alike subject to its sway. Such is the order, the harmony, the unity of nature!

Galileo had abandoned the philosophy of Aristotle, but he clung to the science of Ptolemy. He believed that the earth was immovable, and sneered at the new doctrines of Copernicus. The system of the great Pole, however, gained a footing in Italy, and, entering into the discussions that ensued, Galileo, from being its opponent, became a convert. About this time, Jansen, a Dutch optician, invented the rudiment of the telescope, and a rumour of the extraordinary instrument reached Galileo, who, astonished at the properties ascribed to it, brought his great mechanical knowledge to bear in the same direction, and, after incredible application, produced a telescope with a power thirty times greater than the eye. His task, so assiduously pursued, was no sooner completed, than with trembling hands he pointed the wondrous instrument at the heavens. What a veil was then torn from the majesty of nature! Vast, prodigious, divine, the universe, the mighty handiwork of God, stood exposed to view! The inequalities in the surface of the moon, her mountains, her abysses

—the rotundity of the planets, the changing phases of Venus, demonstrating her revolution round the sun, and, consequently, the truth of the Copernican theory, and, lastly, the sublime spectacle of Jupiter attended by a train of moons, successively riveted his eye, and excited his wonder. In joyous accents he announced his discoveries to the world, and, pointing to their testimony, placed the earth among the family of planets, and proclaimed that it moved!

Let us pass over the terrible scene, when, though but for a moment, he renounced, under the terrors of the rack, the divine truth he had promulgated; for it may be well not to linger on the crimes of an age which was yet new to the emancipation of thought, and indeed we may rather contemplate them as warnings, intended for our admonition, and not without a purpose in the scheme of God's providence.

The progress made in optics by Galileo was followed up in the succeeding age by Halley, Gregory, and the master mind of Sir Isaac Newton. The last early displayed a genius for mechanics, which, in his youthful days, employed itself in the fabrication of sun-dials, water-clocks, and models of familiar machines, and, at a later period, produced more important effects. Great improvements had been introduced into the

telescope by Huygens and Hevelius, but it was still only a refracting instrument, and Newton wished to construct one of reflecting power. This, after incessant application, he accomplished, but not with complete success, and it was reserved for John Gregory to carry out the principle he had imperfectly introduced. But, in fabricating his instrument, Newton was led into numerous experiments on light, which were attended with the most successful results. But before we review his investigations, it will be necessary to glance at the labours of his predecessors, and show what had previously been done in this interesting field.

The frangible nature of light was demonstrated in Des Cartes' exposition of the rainbow. The character of that phenomenon, after it had given rise to many theories, had been elucidated by Antonio de Dominis, Bishop of Spalatro, who, by his simple explanation, showed the absurdity of the tenets held by the ancients. The Greek philosophers had been in nothing so mistaken as in their conceptions of the nature of colour. Pythagoras, Plato, Zeno, even the practical Aristotle, entertained the most delusive ideas on this subject. The first described colours as the superficies of bodies; Plato considered them a luminous emission; Zeno, scarcely more at

fault, designated colours a condition of the first configuration of matter; and Aristotle regarded them as the quality which made bodies transparent. All this time, the rainbow disclosed their character in brilliant hues on the sky. In 1571, Fletcher of Breslau led the way, in a small treatise, to a philosophic exposition of the rainbow, declaring it to arise from a double refraction and one reflection, the solar ray piercing a drop of rain, and sustaining refraction both at its entrance and emission, when it was reflected on another drop on its way to the observer. But Dominis showed, by a simple but conclusive experiment, that the ray, after suffering refraction as it enters the upper part of the drop, is reflected from the back of the inner surface to the lower section of the drop, where it is so deflected by a second refraction that it reaches the eye without an intervening reflection.[13] This was the embryo of Des Cartes' *Theory of Colours*, which had been adopted, to a greater or less extent, by Pardies, Barrow, and Linus. Its fundamental doctrine was the existence in transparent bodies of a pervading ethereal medium, the operation of which produced light, and that this subtle product, at first of one uniform colour, exhibits different hues under certain conditions

[13] 'De Radiis Visus et Lucis.'

of refraction or reflection, arising from derangements of its rays. The theory found a warm advocate in the celebrated Dr. Hooke, who, however, introduced several modifications, and pronounced the action of the medium to be vibratory instead of impulsive. On the other hand, Newton contended that 'light is neither ether nor its vibrating motion, but something of a different kind propagated from lucid bodies;' and he describes the opinion that the phenomena of light, including colours, arise from new modifications of the rays, as 'an erroneous supposition.'[14] Assailed by Hooke, Gascoigne, and Leibnitz, he entered on the subject more fully, and stated the precise nature of light, as ascertained by experiments. Through an orifice in the window-shutter he admitted into a darkened room a solar ray, which, refracted on a prism, cast on the opposite wall an elongated figure of the sun, embodying the seven primary colours, and hence called the prismatic spectrum. Unable to account for the phenomenon, he altered the position of the prism, made fresh holes in the shutter, and adopted other expedients, in the expectation of varying the effect, but with no success; and he then tried the experiment of passing the light through a second prism, which brought the spec

[14] 'Optics,' 336.

trum into a circular form, proving only that, whatever the cause of the elongated figure, there was no defect in his prism. Undaunted by these failures, he now resorted to another mode of investigation; and placing two prisms behind bored planks, succeeded, by separating the rays, in casting each colour in turn on the wall, and, from their different degrees of refraction, deduced the great fact that *light is not homogeneous, but consists of rays of different refrangibility.*[15]

Newton's success in mathematics was no less signal than in optics. In 1665, when only a Bachelor of Arts at Cambridge, and while still pursuing his studies, he hit upon the discovery of fluxions, combining the analysis of infinitely small variable quantities, and the method of finding an infinite or infinitely small quantity, which, being taken an infinite number of times, becomes equal to a quantity given. We have seen that the ancients had arrived at a perception of some such operation, but had never caught its true character; and, from the commencement of the seventeenth century, it had, as it were, floated before the eyes of mathematicians, without ever taking a definite shape. In this way, Kepler, Cavalieri, and Napier of Merchiston,

[15] Brewster's 'Life of Newton,' i. 44.

the inventor of logarithms, with several others, contributed to indicate the invention, but the glory of giving it birth lies between Newton and Leibnitz. To the former we are indebted for the integral, to the latter for the differential calculus; and, united, they invest mathematics with almost boundless power.

The abstract pursuits to which Newton devoted himself were so engrossing, that it was often necessary to remind him of his meals, which he would otherwise have neglected; yet, while thus absorbed, his mind was singularly observant of the smallest operations of nature. It was while sitting in his garden at Woolsthorpe, that the trivial incident of an apple falling from a tree led him into a train of reflections, which resulted in the sublime discovery of the law of gravitation; and considering that the power which precipitated the apple to the ground would possess the same force at the loftiest elevation that it was possible to attain, and that a missile impelled in a straight line from the earth's surface bends into a curve, he was brought to inquire why the same law, operating at the highest known altitude, should not extend to the moon, and turn her to her orbit, as a stone to its curve. A similar principle might pervade the whole solar system; and as the

moon was attracted by the bulk of the earth, and was thus retained in her sphere, the planets would be influenced by the preponderating attraction of the sun, and perform their revolutions round their common centre. Such was the idea presented to his mind—an idea dimly shadowed by Kepler, but first grasped and brought to light by Newton, and, after a profound investigation, by him triumphantly established.

It was now ascertained that the forces of the planets from the sun are reciprocally duplicate of their distances from the great luminary, the power of attraction which chains them to their orbits varying as the square of their distances. Hooke informed Halley and Wren, that he could give a 'convincing demonstration' of this law,[16] but, failing to do so, Halley applied to Newton, inquiring what would be the curve described by the planets on the supposition that gravity diminished at the square of the distance. Newton had calculated the figure, and answered it would be an eclipse, promising to send Halley his calculation, which, however, he found to be not quite accurate, and he went through the work again, clearly demonstrating the fact, and sending the result to Halley.[17]

[16] Brewster's 'Life of Newton.' [17] Ibid.

Speculations on the planetary motions led Newton to compose his treatise *De Motu*, presented to the Royal Society in 1684; and which was afterwards amplified into the *Philosophiæ Naturalis Principia Mathematica*, familiarly known as the *Principia*. This great work comprises three divisions, treating respectively of the motions of bodies in space, of their motions in a resisting medium, and of the system of the world. The third book, after reviewing all the phenomena of the earth, in the beautiful operations and ministrations of nature, terminates with a disquisition on the structure of the universe and the Great First Cause, described as Eternal, Infinite, and Perfect. Thus science and religion are brought into one communion; and the *Scholium* of the *Principia* is as the sun, round which its mighty propositions revolve, as subservient to their centre as the planets in the heavens. It demonstrates, above all, the unity of God—that is, that the whole creation is governed by the same presiding Deity, who pervades every existence by one common property, represented in this sublime and immutable law —*Every particle of matter in the universe attracts every other particle of matter with a force or power directly proportioned to the quantity of matter in each, and decreasing as the*

squares of the distances which separate the particles increase.

The mantle of Newton fell on Laplace, whose *Système du Monde* may be regarded as a supplement to the *Principia*, carrying its profound revelations to the verge of modern inquiry. Science, indeed, was now prosecuted under the most favourable auspices; for not only had the great discoveries of Copernicus, Kepler, Galileo, and Newton unfolded its secret laws—not only did the telescope reveal the wonders, and mathematical computation pierce the mysteries of the heavens, but two great institutions had been established for encouraging, facilitating, and directing further investigation; and the Royal Society of London, founded by Charles the Second in 1662, and the Academy of Sciences at Paris, have worthily fulfilled the functions assigned to them.

Laplace took up the law of gravity at the point where it was left by Newton, considering that the principle laid down by the latter—that the force of gravity was communicated instantaneously, and not in course of time—might be unfounded, and entering into elaborate investigations, he computed the degrees of velocity required in gravity to account satisfactorily for certain perturbations in the moon and planets,

obtaining a conclusion beyond the grasp of figures—that gravity must possess a velocity of at least 9,625,000 millions of miles in a second, which is fifty millions of times greater than the velocity of light. His researches finally elicited a beautiful truth. It had been observed by Halley that the inequalities in the motions of the planets were shared by the moon; and that the queenly satellite, which appeared to revolve so regularly round the earth, was, in fact, narrowing her orbit, and shortening her term—a phenomenon which is called *acceleration of the moon.* From a comparison of the lunar eclipses registered by the Chaldeans B.C. 721, and by the Ptolemaic astronomers at Alexandria, B.C. 201, with the solar eclipses observed by Theon in the fourth, and by an astronomer of Cairo in the tenth century, it was ascertained by Dunthorne that the monthly revolution was accelerated about ten seconds in a hundred years, and, consequently, that the moon attained her meridian two hours later than at the date of the Chaldean observations, twenty-five centuries before. The moon was, therefore, closing round the earth; and superstition saw in this arrangement the germ of annihilation, when the Almighty, at an appointed time—perhaps after millions of years—would suffer the faithful

satellite to be precipitated on its primary, and the universe would be destroyed.

Lagrange and Euler plunged deep into this great mystery, which seemed to leave a flaw in the mechanism of the heavens; but it was left for Laplace, assisted by the computations of those illustrious mathematicians, to complete the investigation, and demonstrate the stability of nature. It was now ascertained that the inequality of motion exhibited by the celestial bodies was periodical, so that the moon, for instance, could only be accelerated to a certain point, when it would reach its maximum, and the same law that had shortened its track would then, by an inverse action, operate to correct the inequality, gradually restoring its elliptic orbit. With the moon, as with the sea, God has fixed a bound, proclaiming, 'Thus far shalt thou go, but no farther;' and we may now truly exclaim that He has set the round world so fast that it cannot be moved.

The theory of the tides, so admirably laid down by Newton, offered Laplace another subject of examination, and he made his studies embrace the whole economy of the seas. Retaining the Newtonian law of gravity, he accounted for the oscillations of the deep by the reciprocal action of three distinct forces, all residing in the

universal property of attraction, but arising respectively from the earth, the earth's rotation, and the joint action of the sun and moon. He endeavoured to establish the stability of the equilibrium of the ocean; and, though his theory may be open to dispute, his investigations secure us, if not from a recurrence of the deluge, at least from any axial derangement of the earth, as he has conclusively shown, that its rotation cannot be affected by a disturbance of the surface, whether springing from trade winds, tempests, or earthquakes, and, consequently, that no change can take place in the length of the day.

The permanence of the chronological year had been provided for two centuries before; but it was not till 1752, that the New Style, as it was called, was established by Act of Parliament in England. The method had been introduced by Pope Gregory XIII. in 1582, in lieu of the Julian Calendar, which, by making the year consist of 365 days 6 hours—an excess of eleven minutes—produced an error of three-fourths of a day in a hundred, and upwards of seven days in a thousand years. The Pope, who was a skilful mathematician, engaged to construct the calendar in such a manner that every fixed date would annually occur at the same period; and moving forward the year ten days, so as to count the

15th of October as the 25th, he ordained that every year not divisible by four, without a remainder, should consist of 365 days; every year thus divisible, but not divisible by one hundred, of 366 days; and, again, every year divisible by one hundred, but not by four hundred, of 365, and every year divisible by four hundred of 366 days. By these rules, 1857 contains but 365 days, because it is not divisible (without a remainder) by four; 1860 is thus divisible, and so claims 366 days; every hundredth year is divisible by four, and hence would be a leap year, but this would be three-fourths of a day beyond the term required, and, therefore, three centuries out of every four commence with 365 days; but as this is taking from each of the three a quarter of a day, the fourth century opens with a leap year, restoring the equilibrium of time, so that there is only a variation of a day in four thousand two hundred and thirty-seven years.

It is uncertain what share in all these prodigious discoveries can be claimed by mental philosophy, or, to speak more precisely, by a fixed method of investigation and analysis, directed to a particular object. We know that the old Aristotelian mode could not produce such results: it had, moreover, been abjured by

Galileo, and was not followed by Kepler. But was nothing effected by the new system of Bacon? The frequent use of Baconian terms by Newton shows that he was at least familiar with the inductive philosophy, but it would be rash to conclude, solely on such evidence, that it helped him to his miraculous discoveries.

Francis Bacon was born on the 22nd of January, 1560, and had reached a mature age when Galileo and Kepler promulgated those great laws of nature by which the system of Aristotle, so long deemed infallible, was broken to powder. The Baconian method had not then been revealed, and, consequently, could have exercised no influence on the result; but it is certain that Bacon, long before this period, when he was himself a student at Oxford, had renounced the Aristotelian logic; and, in a treatise called *Temporis Partus Maximus*,[17] drew out his first rough draft of Induction. He is, therefore, as much as Galileo, entitled to the praise of originality: possibly the truth dawned on the two great kindred spirits at the same moment, a spectacle often presented in the history of the human intellect, when, at particular periods, a light seems to flash at once, as if under divine guidance, on different minds, awaking them to

[17] Letter to Father Fulgentio.

distinct perceptions of the same fact. The learned are at issue as to the exact calibre of Bacon, and the value of his logic to science, insomuch that, as the one or the other opinion prevails, he is by some pronounced an oracle, and by some considered a quack. But though his method was defective, though he was himself led by it to fallacious conclusions, and remained ignorant of many of the fundamental truths of science, it is impossible not to confess that the *Novum Organon* is an embryo of knowledge, that it kindled a spark in the human mind which can never die out, and, consequently, that Bacon is a veritable Teacher and Benefactor of mankind.

This great authority has defined the range of mental philosophy in one of those concise, logical axioms, which so illuminate his writings, giving us, in a few words, the whole bearing of any subject. 'Man, the servant and interpreter of nature, can,' he says, 'only understand and act, in proportion as he observes or contemplates the order of nature: more, he can neither know nor do.'[18] Here we have the text of the *Novum Organon*, the great principle on which it was based, the object for which it was conceived. But, while starting from a point so incontrovertible, Bacon did not adhere to the

[18] 'Novum Organon.'

law he laid down; his 'true ladder' did not, like Jacob's, ascend to the heavens, but became lost in the clouds; and Inductive Philosophy owns him for its founder, for its father, but not for its master.

The Aristotelian logic was effective only as an analytical operation of the mind, by which its various perceptions were weighed and tested; and, from its limited action, it could throw no light on physics. The *Novum Organon* aims especially at this object, by inculcating a process of reasoning founded on experimental knowledge, while, at the same time, the new method can, without derangement of its rules, be applied to pure mental philosophy and metaphysics. This comprehensive logic is appropriately named *the interpretation of nature,* indicating that it is based on experiment and observation; but, once possessed of a foundation of facts, inquiry, if unable to proceed by induction, is permitted to advance by theory, and so educe results by another process, called *the anticipation of the mind.*

Such an arrangement and such a system were pregnant with discovery. They must necessarily impart an initial and lasting momentum to inquiry, observation, and invention. They laid down, in the first place, the primary and vital axiom, that the source of knowledge was *fact;*

secondly, that conclusions are to be deduced from the sense and particulars; and, finally, that a succession of such deductions affords the result.

So essential to the logical structure was its floor of fact, that the philosopher warns us to be careful, when pursuing any inquiry, that we allow no foreign element to attach to our data. He especially denounces the tricks of oratory, and exaggerations of speech; the action of the imagination; the influence of previous impressions, conjectures, and perversions. All these we are rigorously to put away. They are 'IDOLS'—what men cherish and worship, but which ride over human reason as Juggernaut over his votaries. For a moment we are reminded of the prophet of old, as he stood between the two altars—the one consecrated to divine truth, the other to superstition; and, wavering between the two, we recall his exhortation to make a choice. Like the prophet, too, the philosopher will have us guided only by what we see, what is actually demonstrable; and he carries his doctrine so far, that, in the process of induction, he even forbids reference to Final Causes. Hence he has been adduced as an authority for their exclusion altogether from mental philosophy. It has, however, been well remarked by Lord Brougham that 'Bacon does not disapprove of the speculation

concerning final causes absolutely, and does not undervalue the doctrines of Natural Religion, so long as that speculation and those doctrines are kept in their proper place. His whole writings bear testimony to the truth of this proposition.'[19] By no writer, indeed, are the operations of nature more constantly referred to the Great First Cause; and all the beautiful faculties of the mind, all the mechanism of the universe, are, in the arguments of Bacon, made to reflect glory on their Creator.

But despite his care to obtain a sure foundation, despite his solemn admonitions to mankind, Bacon's philosophy was, after all, itself built on error. It is perfectly true that the sources of knowledge are observation and experiment, but those principles must themselves be rightly used, and directed on proper objects. The *interpretation of nature* is not to be obtained from phenomena; these will rather lead to *anticipation of the mind.* Bacon derived his data from form, texture, quality, position, colour. He judged from the aspect of things. But the true basis, the key to results, is, not the effect, but the cause. To reach the truth, he should have reared his system, not on the phenomenon, but on the law by which the phenomenon was produced.

[19] 'A Discourse on Natural Theology,' 140.

Yet his conception was vast and sublime. He fell short, indeed, of the goal; but he piloted the way for other guides; and, as the founder of induction, his name will be a tradition to latest ages.

It is lamentable that such a man should appear in history as an example of human infirmity. There is reason to believe, however, that his alleged treason to Essex, his abuse of the judicial functions, his meanness, perjury, and moral insensibility, so incompatible with a schooled and disciplined mind, existed only in the malice of his enemies. Modern researches prove that he was prevented from vindicating his conduct, and, in the case of Essex, he was made the scapegoat of the sovereign. If, indeed, we consider him less good than great, he must offer a standing refutation of his own philosophy; for not only did he uphold virtue as a source of happiness, but he described it as the unfailing fruit of philosophic pursuits. This is especially done in his essay on the *Advancement of Learning*—a review of the principles of knowledge, more complete in design than in its execution—and in which he claims the highest attributes for the literary character.

While the Ptolemaic astronomy was demolished by Copernicus, a priest, it is remarkable that Bacon's assault on the Aristotelian logic, which

had misled the human mind for a period of equal duration, should have been followed up by a pupil of the Jesuits. Réné Des Cartes was born at Touraine in 1596, and was little more than sixteen when he discovered the sterility of the syllogism, and endeavoured to frame a new method of reasoning, which would assist inquiry, as well as facilitate conviction. The atmosphere around him was not favourable to such an expansion of thought, and with a prudence beyond his years, but in keeping with his character, he suppressed his opinions, confining their operation to his own mind, till, fortified by position and fame, he found himself strong enough to turn on his masters, and promulgate the new theory. The result was a fierce controversy, which divided the scholastic circles of Paris into two factions, the one siding with the Jesuits and Aristotle; the other, with equal zeal, supporting Des Cartes. The latter assumed the name of Cartesians; and it is in reference to this designation, that, at the risk of appearing singular, we retain the syllabic division of the philosopher's name, which is now given as one word—Descartes; but the modern spelling, though familiar to men of science, would present no connexion to the general reader. As a system, the Cartesian logic acquired no root in the scientific world; but, by

exciting discussion, it undoubtedly threw the *second* stone at Aristotle. It is, however, both illusive and contradictory; and is even irreconcileable with his own theory of Nature, which, unlike his logic, was founded on the philosophy of the ancients. He repudiated the distinction of matter and space, reviving the Leucippian doctrine of a *plenum*, which supposes universal materialism, with the possibility of a *vacuum*. To account for the motion of the planets, he conceived their orbits to form a *vortex*, in which they swam, thus adopting the delusion of Democritus and Epicurus, who were the originators of this celestial Maëlstrom. The theory, however, was completely disproved by Newton, who demonstrated that the periods of vortical bodies must be directly from the squares of their distances to the centre of the vortex, whereas the planets, in their revolution round the sun, observe a law of a totally different character, the squares of their periodical times being always as the cubes of their distances. Des Cartes attempted, what Kant afterwards pronounced impossible, to prove the existence of God from reason, apart from revelation; but, quitting the solid base of final causes, his argument is rather ingenious than deep, and does not realise the great truth of an Omnipresent Being. But though no discoverer nor prophet—though

he wrested no secret from the heavens and kindled no new light in the mind—Des Cartes yet gave expansion to philosophy, by leading it into new fields of investigation; and science was rendered more attractive by the diversity of his thoughts and the splendour of his imagination.

The life of Des Cartes, no less than his system, presents singular resemblances to other philosophers. Like Bacon, he discovered, when only sixteen, the fallacious structure of the Aristotelian logic; like Aristotle he was for a short time a man of fashion; like Socrates, he was a soldier; and, like Plato and Pythagoras, a traveller. He shared the delusions of Sir Kenelm Digby as to the durability of the human body, believing that, by following a proper regimen, man might render himself immortal, or, at least, obtain the same length of life as the antediluvians. Yet this theoretical patriarch died of a cold, at the age of fifty-four.

If Bacon demolished the Aristotelian philosophy, it was reconstructed and restored by Immanuel Kant; for *The Critique of the Pure Reason*, which embodies the system of the German metaphysician, contains little that was not shadowed forth by the Greeks. It copies the Baconian method so far, that it divides all knowledge into two branches—not the lucid divisions of *Interpre-*

tation of Nature and *Anticipation of Mind*—but knowledge *à priori* and knowledge *à posteriori*; the first being positive forms of the mind, over which we have no control, and which are inevitable in their result, and universal in their operation; and the other arising from sensation or experience. But these divisions alone are deemed too simple: the given characters do not mark the perception with sufficient distinctness, and may lead us into error. We are, therefore, required to take two other guides, described as *judgments*, and which are distinguished as the *analytic* and the *synthetic*. By the analytic we are led to the source of our perception: by the synthetic we are brought to discern its types through the medium of a dependent base. But we are yet far from PURE REASON—far from the point of first principles, when the subject, traced back from its traditions, is abstract, absolute, and complete in itself. To reach this '*transcendental*' height, we must fall back on the old, obsolete machinery of Aristotle and Plato, lose ourselves in the mazes of *Quantity*, *Quality*, *Relation*, and *Modality*, scramble out in a *Category*, and finally attain the Buddhist solution that an object exists, but that no opinion can be formed of its reality.

Such a system necessarily ignored the existence of a Supreme Invisible Being; for it

admitted no conclusion but form, and made form itself an image. Kant, indeed, admits that, by pure reason—that is, by his theory—we can discern no evidence of a Deity, because the fact is not within our experience, and he forbids us to look for Him in the works of nature, because natural objects are illusive. The starry heavens, the beautiful earth—that book of the universe, which Bacon called 'another Bible,' the wonderful structure of the human frame, the very faculties of thought which he investigated, and for which he prescribed such arbitrary laws, brought to Kant's mind no gleam of a Divine Intelligence, without which these '*forms*' could not be. He himself pronounced the best commentary on his system, when he declared the existence of God a necessity, grounded on practical reason, though it was at variance with the whole tenor of his theory.

A logic thus faulty in metaphysical deduction could not, of course, lead to any result in its application to physics; indeed, all the triumphs of what may be called, *par excellence,* the era of discovery, had been completed, before the *Pure Reason,* which was not published till 1784, made its appearance.

Meanwhile astronomers had continued their explorations of the heavens, and the telescope

brought to light the rings and moons of Saturn, the binary and multiple stars, the distant orb of Uranus, and the brilliant group of asteroids, the archipelago of the skies. Sir William Herschel gauged the Milky Way, scanned its nineteen millions of suns, and resolved some of the Nebulæ into stars. In 1823, his illustrious son, Sir John Herschel, visited the Cape of Good Hope, for the purpose of exploring the southern hemisphere; and it was my fortune to proceed to the same destination in the same ship, little dreaming, being then a child, that it would ever be my office to note, even in the briefest manner, the general result of his observations. Sir John especially directed his attention to the two Magellanic clouds; and their aspect tended to support a theory propounded by his father, that some of the Nebulæ, which baffled the penetration of the most powerful telescopes, were composed of a chaotic mass, the materials of future suns and worlds, undergoing that process of formation, of which the rings of Saturn in our own system are supposed to be an advanced example. Nubecula major, the larger of the clouds, was found to consist of groups of constellations, mingled with irresolvable nebulous light, which Sir John describes as *star dust:* Nubecula minor emitted a fainter radiance, and

presented a greater surface of star dust, with fewer constellations. But it must be stated, on the other hand, that some of the masses on which the elder Herschel founded his theory, have since been resolved into stars by the monster telescope of Lord Rosse; and though it may be presumptuous to doubt a theory emanating from such an authority, and implicitly received by many eminent astronomers, it cannot be denied that it is at variance with the perfection we see everywhere around us, and, therefore, not susceptible of demonstration.

The nebulous theory has indeed been extended to comets, and if we admit the application, they furnish a more forcible illustration of the structural process of worlds than the rings of Saturn. Comets, however, are still a mystery to philosophers, though even they have been made to yield some fugitive light; and their appearance is no longer, as in the ages of antiquity, a source of consternation to mankind, but can be accurately calculated and predicted. The first to make one of these bold prophecies was Halley, who, after a diligent investigation of the subject, marked out the period of the great comet of 1607. As the time approached for its reappearance, its orbit was computed by Clairaut and Lalande, and, true to their calculations, it

gleamed at the appointed moment in the distant heavens. Still alarm was always felt at the mighty attraction exercised over comets by the sun, and, as they darted towards the luminary, the imagination could not divest itself of an apprehension that this influence might prove overpowering, and, by drawing the two bodies together, overwhelm nature in the catastrophe. Confidence was restored by the wondrous discovery of Sir John Herschel, that the sun not only attracts, but repels comets; and that these flaming wanderers, which describe an orbit in space beyond expression, though not beyond calculation, are, like the sea, like the moon, like the revolving planets, finally met by a bound which they cannot pass. But prodigies shake the base of human faith, and there yet remained an apprehension that comets, in their approach to the sun, might cross the orbit of the earth, and come in collision with our globe. This last delusion was dispelled by the researches of Arago, and in a report made to the French Academy of Sciences in 1832, that distinguished astronomer, referring to the approach of Biela's comet, proved that its passage across the earth's track would occur at a period when the terrestrial orb would be separated from it by a gulf of fifty-five millions of miles, but that even in the event of a

collision, the earth would pass through the nebulous mass without injury. The extreme rarity of the comet had indeed been established by Sir John Herschel, who discerned a cluster of stars of the 16th and the 17th magnitude, through the cometic matter, although it was upwards of 50,000 miles in depth, and the group of stars was so minute that it would have been effaced by the slightest fog.

Bacon propounded a problem on gravitation which was not solved by Newton, as to whether the gravity of the earth arose from the gravity of its parts, and he suggested that a result might be obtained by swinging a clock pendulum in a mine. This has at length been done at Harton colliery by Professor Airy, and a new inquiry opened. While looking for nature's secrets in the Earth's breast, the Astronomer Royal sought for them also in the sky; and by close observation, and a calculation of the most elaborate character, determined an inequality in the mean motions of the Earth and Venus, such as had previously been noted in other planets.

During the progress of astronomical discovery, mathematics were assiduously cultivated by the greatest minds of the age, and continually opened new methods of calculation, which were of the greatest service to astronomy, and, at last, have

reached such perfection, that everything is demonstrable by figures.

In 1727 Christian Mayer promulgated his geometrical theorems, resulting from the connexion of geometry with algebra; and hence arose the *Arithmetic of Sines.* This supplies astronomy with a medium of investigation at once simple and effective, and has been rendered easily available by the *notation* and *algarithm* of Euler, one of the greatest mathematicians of his age. It was Euler who also gave a practical form to the *calculus of variations*, invented by D'Alembert, and which insures additional accuracy in the solution of problems. Maclaurin, breaking the long sleep of English science, solved the problem of *maxima* and *minima*, and thus augmented the sphere of mathematics, while he associated Britain with the triumphs of the day.

While Christian Mayer was applying algebra to geometry, another Mayer—Tobias of Gottingen—contended with Euler and D'Alembert for the reward offered by the English Board of Longitude for an accurate mode of computing the moon's place; and, though he did not attain his object during life, he prepared a set of tables, which, after his death, obtained a share of the prize. The calculations of D'Alembert and Euler were, indeed, very inferior, and were sur-

passed by those of Clairaut, who took part in the contest; but it is fair to observe that the theorems of Euler were the basis of Mayer's tables, and after his defeat, he again entered the lists, and obtained in France, from the French Board of Longitude, the prize withheld in England.

The problems opened by optics are not yet exhausted, but have not been left unstudied. The law of interference of light, which escaped Newton, was promulgated by Doctor Young, though, like all great discoveries, it owed its development to a chain of philosophers, and can be traced back to Grimaldi, in the middle of the seventeenth century. From observing that bodies exposed to the sun's rays in a darkened room had their shadows enclosed by tinted fringes, Grimaldi was led to a more delicate scrutiny of the phenomenon, and finally ascertained that light is diverted from its rectilineal course in skirting the edges of bodies. At that period, science made no step that was not in some way aided by Hooke, whose versatile genius soared at every height, but never alighted on any; and the law of interference, like the sublime law of gravity, owed something to his speculations. Our knowledge of diffraction has also been largely augmented by Fresnel, Arago, and Brewster, names memorably associated with

the progress of the human mind, and the subject continues to engage the attention of philosophers.

In 1808, M. Malus, while contemplating a beautiful sunset with a doubly refracting prism, accidentally discovered the polarization of light; the precise angle of which was afterwards determined by Brewster, and laid down in the simple law—*that the tangent of the polarizing angle for any medium is equal to the sine of the angle of incidence divided by the sine of the angle of refraction of that meridian.* The subject of polarization has largely occupied the scientific world, and the interesting researches of Sir John Herschel have opened a galaxy of new phenomena, attesting the endless diversity and infinite beauty of nature, which still appears the more boundless the more she is explored. Sir John has elicited from light two new prismatic colours, beyond the range of the Newtonian spectrum, and the sunbeam now affords us nine tints, the red deepening into a darker shade, and the violet fading to a lavender gray. From such investigations, the master genius of Lord Brougham has also developed new phases of inflection and deflection. The discoveries of the illustrious philosopher are of the greater importance, as they seem quite irreconcileable with the

undulatory theory, which, in opposition to the great authority of Newton, is now generally received, and they open once more the question of the source of light. Though it is opposed to the opinion of the age, it must be conceded that the emittent theory of light offers the more simple explanation, but Lord Brougham has felicitously observed that 'the optical discoveries of Sir Isaac Newton would not be discredited, much less the science he cultivated be degraded, if the undulatory hypothesis should, on a fuller inquiry, become established by strict proof.' [20]

In connexion with mathematical science, we must not omit the names of Condorcet and Babbage, whose labours have exercised such an influence on its progress. Statistics have been raised into a science by the extraordinary labours of Dr. Arthur Farre. Babbage, while extending the application of mathematics, has also materially enlarged experimental philosophy, and his exposition of the general cause of volcanic action, and of the variations in the equilibrium of the internal heat of the earth, is a noble contribution to human knowledge. Sir John Herschel was led to the same conclusions, by investigations equally elaborate, and which,

[20] 'Discourse of Natural Theology,' 157.

carried on without concert, afford a remarkable confirmation to the views of Mr. Babbage.

Kepler had predicted that a new planet would be discovered in the great gap between Mars and Jupiter; and Professor Bode, speculating on the interplanetary spaces, laid down an empirical law of distances from the sun, which may be thus stated—

4	7	10	16	28	52	100	196
Mercury.	Venus.	Earth.	Mars.	—	Jupiter.	Saturn.	Uranus.

The vacancy between Mars and Jupiter was filled, in 1801, by the discovery of Ceres, and subsequently by a number of asteroids, chiefly brought to light by Mr. Hind. But mathematical science was to be crowned by a still greater triumph. From certain unaccountable irregularities in the motions of Uranus, it was conjectured by Bouvard that the distant orb must be subject to the action of some unknown planet, which swayed it from its natural course; and, as the subject was generally discussed, M. Leverrier and Mr. Adams turned their attention to a deduction of the elements of the stranger's orbit. The operation—called the inverse problem of perturbations—was completed by both the astronomers, who not only theoretically ascertained the existence of the

planet, but so nicely defined its position in the heavens, that their calculations were within a degree of each other, and that of Adams proved to be little more than a degree from its exact place. On the 12th of August, 1845, the planet was actually seen by Professor Challis, of Cambridge, and on the 18th of September, it was observed by M. Galle, of the Royal Observatory of Berlin, when, by common consent, it received the name of Neptune, and was received into the circle of the solar system.

Such are the achievements of the human mind! Contemplating the vastness, the infinity of Creation, beholding the magnitude and inconceivable number of the celestial bodies, and the prodigious scale of nature, man might tremble to find himself reduced, in this awful immensity, to a proportion far smaller than the invisible insect whose universe is a leaf. Almost we could think, with Kepler, that the earth and the planets are animated beings, and that we are but unseen animalculæ, our deepest mines a scratch, our loftiest fabrics less than a seed on its surface. But how changed is our conclusion, when we reflect that, stupendous as the universe appears, it has been explored, and, as it were, conquered by the human mind! Our eye spans the boundless regions of space, measures their length and

breadth, discerns their hidden laws and secret elements, and marks out their countless suns and systems, as the early navigators traced the shores of the unknown world. We see everywhere order, harmony, design, stability. We gaze on a spectacle which angels might desire to see, and perhaps, have not been permitted to look into. It is all brought before us, all exposed and fathomed by our own unaided powers! What is our physical stature in comparison with this grasp, this sublime elevation of intellect! What is matter compared with mind! The grandeur and magnitude of the mental faculties attest the superiority, and indicate the destiny of man: he is no longer invisible on the earth, lost to nature, and forgotten by God; but, even while enchained by matter, he becomes a spirit, and feels himself bound by no horizon, and confined to no limits.

Nor is it only in the heavens, their laws, systems, mysteries, and phenomena, that philosophy has dived into the secrets of nature, and sought for indubitable traces of the Deity. It has pursued the same researches in the earth itself, not merely on its surface, by ascertaining its extent, density, and materials, by defining the configuration of its coasts, plumbing its seas, investigating its varied products, and exploring

its atmosphere, but also by digging into its depths, and examining the strata of which it is composed. These successive layers are found to reveal its history—to record, in adamantine characters, the mighty changes and awful catastrophes through which it has passed; and the great globe thus appears as a volume in cipher, to which Geology affords us the key.

We have seen, in our first book, that the internal structure of the earth, and even some of the principles of geological science, had not escaped the observation of the ancients; but their theories were as deeply buried under the *débris* of the Roman empire as the fossils of the primeval world under its soil. At the end of the fourteenth century, a mass of petrified bones were disinterred in Hindostan, in excavating a canal near the river Sutlej; and their colossal size, exciting notice, reminded some learned Pundits of the almost forgotten speculations of their early philosophers. But it was not till a hundred years later that similar discoveries attracted attention in Europe, and the celebrated Leonardo da Vinci has the credit of being among the first to indicate their true character. He would not admit that the shells and other marine deposits dug up on the summits of hills were formed, as the narrow dogmas of the age

affirmed, by the influence of the stars, and particularly pointed to the position of stones in gravel as attesting the agency of water. Several Italian philosophers of the same century propounded theories on the subject, some asserting that the fossils and gravel were marine remains, deposited by the Flood; and others, who adopted the Aristotelian doctrine of spontaneous generation, considering them as a natural concretion, accomplished on the spot where they lay. Steno, a Danish professor, who flourished about 1660, classified the Tuscan fossils into marine and fluviatile remains, and, contending that the natural tendency of deposits was horizontal, affirmed that the diversities on the earth's surface were caused by internal disturbances.[22] About the same time, Lister published an account of the fossil shells of Britain; and ascertained the principal formations in the strata of our island. But the greatest geological treatise of the age emanated from the famous Dr. Hooke, who, referring to the turtles and other ammonitic relics discovered in the bed of Portland, maintained that England must once have been covered by the sea, under the torrid zone; and pronounced the fossil shells and plants to be 'monuments of nature,' from which it might be

[22] 'De Solido intra Solidum Naturaliter Contento.'

possible to establish a chronology, and 'to state the intervals of the time wherein such or such catastrophes and mutations have happened.'[23] Hooke was followed by a number of writers, most of whom endeavoured, by some mode or other, to ascribe the aquatic deposits to the deluge, and the deluge to a derangement of the Earh's axis, and, among these, Ray, Woodward, and Burnet occupy a prominent place. But their speculations and hypotheses present, in the aggregate, as crude and undigested a heap, as perfect a chaos, as they seem themselves to have discerned in the structure of the world, and led to little, if any real knowledge. Boyle, Leibnitz, and the Italian *savans* Vallisneri and Moro, opened, by their theories and explorations, fresh vistas of inquiry; and, in 1749, Buffon promulgated a new 'Theory of the Earth,' in which he asserted the great principle that the existing land, with all its diversities of mountain, valley, and plain, is due to secondary causes, which, being still in operation, will, in course of time, wear away and destroy the present continents, and raise new territories from the bosom of the sea.[24] Such a doctrine was considered heretical, and on its interdiction

[23] Lecture in Posthumous Works.
[24] Buffon's 'Nat. Hist.'

by the Saorbonne, Buffon was induced to make a recantation, declaring that he abandoned every statement in his work which, in the opinion of the Faculty, should be considered irreconcileable with the Scriptural account of the Creation. Twenty years later, the great Werner came on the stage, and laid down those grand principles which may be considered as the foundation and keystone of geology. In 1775, while professor of an obscure school of mines, at Freyburg, in Saxony, this illustrious man startled Europe by his bold propositions, announcing a new theory of the earth, and new properties in the mineral ingredients of its strata. His scientific attainments were rendered more potent by the fertility of his imagination and the persuasive force of his eloquence, so that while the one led him to the wildest conclusions, the other forcibly impressed his views on his auditors, and, at the same time, his practical science gave them at least a colour of reason. Yet while Werner added much to our knowledge of metalliferous veins, and first showed the importance of observing the relations of superposition of particular mineral groups, he was not free from the faults incident to a speculative nature, launched on such an expanse. Putting aside his hallucination as to the influences exercised by the

mineral composition of rocks on the inhabitants of the region immediately overlying them, so as not only to affect their habits and manners, but even their language—a theory just revived by Alfred Maury, in *La Terre et l'Homme*—he committed a fatal mistake in adjusting the strata of the whole earth on the pattern of a fragment of his native province. Thus he instituted an arbitrary system of *universal rocks*, which had no foundation in fact, but which his disciples, considering him infallible, held themselves bound to defend, though every fresh exploration proved them to be unwarranted. He also maintained that the primeval world contained no volcanoes, and that all basalt formations were chemical precipitates from water, whence the name of *Neptunists* was given to those who received his doctrines. Desmarest, a contemporary of Werner, contended that the ancient trap rocks were of igneous origin, and became the father of the *Vulcanists*, between whom and the Neptunists there was a perpetual war. But, after a long controversy, the Vulcanists have triumphed, and their opinions are now everywhere adopted.

William Hutton was the first of the English geologists who arrived at a just conception of the structure of the world. In 1795 he published his treatise on the *Theory of the*

Earth, which maintained the igneous origin of basalt and other trap rocks, and affirmed that the continents now existing had been raised by successive depositions from the bed of the ocean. Formed of the ruins of anterior lands, they are, in their turn, wearing away, and slowly accumulating in the deep the foundations of another world. He summed up his whole theory in a few words—'In the economy of the world I can find no traces of a beginning, no prospect of an end.' And this scientific creed was endorsed by Playfair, his disciple and biographer, who observes that the Author of Nature 'has not permitted in his works any symptom of infancy or of old age, or any sign by which we may estimate either their future or their past duration.'[25] Such a declaration could not be expected to pass undisputed, and accordingly it gave rise to a protracted controversy, which has only been silenced by the phlegmatic indifference of modern geologists, who, having no predilections for either Hutton or Werner, Neptunists or Vulcanists, have kept clear of idle discussions, though they have, perhaps, not altogether avoided delusive speculations. But the labours and researches of Cuvier, Brongniart, and Agassiz, of Lyell, Phillips, Murchison, Mantell, and

[25] Playfair's Works, iv. 55.

Hugh Miller, have at length resolved geology into a science; and under the auspices of the Geological Society, it has acquired such a footing in England, that, like the granite of the earth's floor, it may be considered immovable.

In connexion with geological inquiry, much attention has been directed to the subject of the propagation and fixity of species; and looking at the mingled differences and resemblances of fossil animals and plants and those now established, it has been doubted whether such a thing as species really exists in nature, as a permanent and immutable arrangement; whence the conclusion has even been mooted that the present vegetable and animal kingdoms, though apparently separate and distinct, are derived from the races of the pre-existing world, which again were a progressive development of anterior beings. Here we have the oriental doctrine of transmigration of souls applied to matter, and represented by the transmutation of species. Lamarck, the founder of the theory, considers man himself to be derived from the orang-outang,[26] which itself was advanced, by successive transmutations, from a monad, the least of the visible animalcules, described by Buffon as constituting the elementary molecules of organic

[26] Lamarck's 'Phil. Zool.'

life. But apart from the fact that such a derivation is contrary to all we see and know, and, if admitted, would present far greater difficulties than a specific creation, the adherents of the theory have quite forgotten, what has been equally overlooked by its opponents, that as there is incontestable evidence of the pre-Adamite worlds having been successively destroyed, existing races cannot possibly result from progressive development, since no progenitors remained to effect their propagation!

The explorations of Buffon, Linnæus, and Cuvier, in the kingdoms of animal and vegetable life, enable us, in all our investigations, to draw a line between the past and present in the vast regions of nature. Natural history had attracted the attention of a philosophic few from the first revival of learning, and about the middle of the sixteenth century, Belon of Maus published a treatise on birds, presenting the outlines of an arrangement which is not very different from our present classification. In 1554, Rondelet, a professor at Montpellier, produced a work on fishes,[27] and a similar publication emanated from a Roman physician, named Salviani.[28] Both contained valuable

[27] 'Libri de Piscibus Marinis, in quibus veræ Piscium effigies expressæ sunt.'

[28] 'Aquatilium Animalium Historiæ Romæ.'

information as to the habits and nature of the animals described, though with little attempt at classification; and the pages of Rondelet were embellished with accurate cuts of different species of fishes, mingled, indeed, with bold delineations of monsters which existed only in his own imagination, or in the ignorant conception of the times. About the same time, the celebrated Conrad Gesner devoted himself to the compilation of a general history of animals, but, dying in 1565, the work was not published till twenty years later, when it made its appearance at Frankfort, in three folio volumes.[29] It is chiefly valuable as presenting, at one view, all that was then known of the economy of animal life; but Gesner has advanced nothing from his own observation, and, as a composition, the work is tedious and uninteresting.

Marcgrave and Swammerdam gave a new impetus to natural history: the former by his explorations in Brazil and on the coast of Africa; and the latter, a skilful and persevering anatomist, by bringing comparative anatomy to bear on the delicate structure of insects. Swammerdam may be considered the originator of this mode of investigation, which has done so

[29] 'Historia Animalium.'

much for science, and so widely extended the boundaries of human knowledge.

Woodward, the founder of the Woodwardian chair of geology at Cambridge, and Sir Hans Sloane were both diligent naturalists, and each was somewhat jealous of the other's success. On one occasion, Sir Hans was reading a paper at the Royal Society, when he observed Woodward making contemptuous gestures, and complained that he was mocking him. Woodward denied the charge: it appears, however, to have been fully established, as, after an investigation, he was expelled the Society.[30]

In 1685, a work on conchology was published by Dr. Martin Lister,[31] the Secretary of the Royal Society, which made a great advance in natural history by introducing *system*, of which Lister was the inventor, though Willoughby and Ray, two contemporary zoologists of eminent merit, gave it a more comprehensive character. System was still further extended, or rather perfected, by the great Swedish naturalist, Charles von Linné, better known by his name of Linnæus, whose masterly genius grasped the whole realm of nature, defined its endless divisions, relations, and affinities, and subjected

30 'Hist. of the Royal Society.'

31 'Historia sive Synopsis Methodica Conchyliorum.'

their vast empire to the human intellect.[32] This was accomplished not only by the completeness of his classification, but by his invention of a nomenclature, so applicable and so flexible, that it adapts itself, without difficulty, to every description of animal and plant, expressing their special character in their name, and thus claiming to be called the *language of nature*. France raised up a rival to the Swedish naturalist in the renowned Buffon, who invested natural history with the graces of composition, and the charm of eloquence. But Buffon, though aided by the practical scinece of Daubenton, lacked the accuracy and the analytical skill of Linnæus. His writings advanced the study of natural history by rendering it interesting, but, at the same time, they disseminated many errors and fallacious theories, from which the Linnæan system was free. The Swedish philosopher aimed to describe every animal by a word: Buffon wrote the annals of its species, and its own separate biography: the one addressed himself to the student: the other, taking a wider range, sought to interest mankind.

This vast audience has also been addressed by Lord Brougham, who has brought to the investigation of natural history all his alert

[32] 'Systema Naturæ.'

observation, philosophic spirit, and profound mathematical knowledge. Only with such qualifications could he have composed his dissertation on instinct, the nature of which he analyses with a master hand, in the familiar medium of a dialogue. His survey of the animal kingdom is illustrated by curious facts, which address the humblest understanding; and, supporting argument by experiment, he carries mathematical science into the bee's cell, demonstrates its accurate geometrical construction, and confirms the solution of *maximum* and *minimum* obtained by Maclaurin.[33]

The principal French naturalists long adhered to the tenets of Buffon, rejecting both the classification and the nomenclature of his rival; but the Linnæan system has been adopted, with some modifications, by Cuvier, though this great philosopher has founded his grouping on the anatomical, instead of the external structure of animals. His *Règne Animal*[34] thus becomes a sequel to the *Systema Naturæ*, in some points surpassing, in others falling short, of that celebrated work. But the classification of Cuvier has not been universally adopted, and, among

[33] 'Dissertations on Subjects of Science connected with Natural Theology.'

[34] 'Le Règne Animal, distribué d'après son Organisation.'

others, a Prince of the Bonaparte family has warmly opposed his views.[35] Whatever may be said of his application of the anatomical test to the existing animal kingdom, it has been attended with signal results in his geological researches, and his dissections of fossils rank with the greatest triumphs of science. A deep religious feeling is apparent in his writings; and by his adhesion to the doctrine of Final Causes —a belief that every spring in Nature has a purpose—he was led to a solution of the problem of the extinct population of the tertiary period. Our illustrious countryman, Professor Owen, shares the glory of his achievements, having worked assiduously in the same field, and with equal success. It is enough to place in the hand of this great anatomist the smallest fragment of a fossil animal, a joint, a nail, a tooth, and he immediately identifies its species, describes its habits, and even delineates its shape. Such are the miracles accomplished by the human mind, inspired by the glorious light of science.

So much progress could not be made in anatomy without revealing, in a clearer manner, the internal economy of the human frame. It

[35] 'Sulla Seconde Edizione del Regno Animale del Barone Cuvier. Osservationi de Carlo Luciano Bonaparte.'

would be beyond the scope of our narrative to trace these advances one by one, and step by step; yet there are some that claim especial mention. At the commencement of the seventeenth century, anatomists had discovered that the valvular structure of the veins and heart was so contrived, that the blood could flow in only one direction, and the fact was particularly dwelt upon by Fabricius ab Aquapendente, who was the preceptor of Harvey. The latter, according to his own statement to Boyle, was led by this phenomenon to a closer investigation of the blood; and he goes on to say that 'when he took notice that the valves in the veins of so many parts of the body were so placed that they gave free passage to the blood towards the heart, but opposed the passage of the veinal blood the contrary way, he was incited to imagine that so provident a cause as Nature had not placed so many valves without design, and that no design seemed more probable than that since the blood could not well, because of the interposing valves, be sent by the veins to the limbs, it should be sent through the arteries, and return through the veins whose valves did not oppose its course that way.'[36] Further examination confirmed his conclusions, and he was able to

[36] 'Disquisition about the Final Causes of Natural Things.'

announce the great discovery of the circulation of the blood.

Swammerdam, Boerhaave, Leuwenhoek, Winslow, and Hunter, labouring with equal assiduity, searching every nook of the human body, largely augmented our stores of anatomical and structural knowledge. Hunter may be called the founder of the great English school of medicine, which produced Abernethy and Jenner, and, in our own day, Cooper and Brodie. Macilwain, in his admirable *Memoirs of Abernethy*, places Hunter and Abernethy side by side. 'In considering Hunter and Abernethy,' he says, 'we shall see not only a remarkable adaptation for the tasks in which they were respectively engaged, but also how the peculiar defects of the one were supplied by the characteristic excellences of the other.'[37] Edward Jenner ranks with the noblest benefactors of mankind. By his discovery of vaccination, he arrested the greatest scourge that ever afflicted the human race, providing the body with an innate disinfectant, an infusion of innocuous matter, which remained as an amulet in the blood, rendering the plague powerless. The small-pox was now vanquished, after maintaining its reign of terror for five centuries, having been brought to Europe in the train of Edward the

[37] 'Memoirs of John Abernethy, F.R.S.,' 3rd edit. p. 5.

First, on his return from the Holy Land, in 1272. Dr. Gaddesden, the physician of Edward, received the new disease, when it made its appearance in the palace, with royal honours. The treatment he prescribed for Prince Edward contrasts forcibly with the advanced science of modern times, as exhibited in the beautiful invention of Jenner. 'I ordered the prince,' he says, 'to be enveloped in scarlet cloth, and that his bed and all the furniture of his chamber should be of a bright red colour; which procedure not only cured him, but prevented his being marked.'[36]

A court physician of modern times might have wanted the courage to introduce such a novel practice. Previous to the discovery of vaccination, attempts were made to mitigate the fury of the small-pox by inoculation, and the movement was supported by Sir Hans Sloane, physician to George the Second. By the Queen's command, some of the charity children of St. James's were subjected to the new treatment, and the result was so satisfactory that Her Majesty desired Sloane to inoculate her own children. This, however, the philosophic doctor, who had so readily operated on the offspring of the poor, resolutely declined, affirming that 'he

[36] 'Rosa Anglarum.'

could not be certain of the consequences that might follow.'

English medical science in the present day is ably represented by Sir Benjamin Brodie, the first surgeon in Europe. This illustrious practitioner has been sergeant-surgeon to three successive sovereigns; and from his immense experience, his high scientific attainments, and his rare skill, justly stands at the head of the profession. His industry is commensurate with his ability; and, while diligently pursuing his practice, he has found time to write numerous professional works, which materially enrich our medical literature.

Homœopathy and the water-cure are features in modern practice, which, perhaps, may claim to be mentioned. Both have attained considerable popularity; but their alleged cures are probably due more to a simple diet than their own efficacy.

Chemistry has kept pace with medicine in its acquisitions, attaining almost unlimited expansion. Words may catalogue, but not explain, its conquests and discoveries, its revelations of the structure of Nature, and disclosure of her secrets. What thought, labour, and experiment, what close observation, what midnight study and infinite toil in the laboratory, what rigorous application, straining every power and function of the

mind, and every faculty of the body, are passed over in the record! Yet its brief and sentient announcements tell all this, speaking with Linnæan force. The story is the fact, and, once acquired, we write it on our memory, so that we may always know that Robert Boyle eliminated the properties of air; that Galvani and Volta introduced the batteries which respectively bear their names; that Priestley discovered oxygen gas; that Berzelius dissolved salts by the voltaic pile; that Davy proved, by his decomposition of alkalis and earths, that soda, potass, lime-magnesia, and other supposed elemental substances, could be resolved into constituent parts; that Lavoisier unfolded the theory of combustion; that Black elicited the pregnant secret of latent heat; that Malpighi and Priestley found indications of a structure of particles, as originally announced by Hippocrates and Leucippus; that George Stephenson shares with Davy the invention of the safety-lamp; that Faraday educed the ruling principle of voltaic phenomena, and liquified the gases; and, finally, that the atomic theory, foreshadowed by Priestley, was promulgated by Dalton.

The possibility of applying coal to purposes of illumination had long been mooted; and, in 1792, Mr. William Murdoch, of Redruth, in Cornwall, employed coal gas for lighting his

house and offices. This is the first instance of the use of gas in Europe. It is said, however, to have been known to the Chinese from an early period, though it was adopted only to a limited extent, in connexion with their coal diggings. Even in England, the new light made little way, and, for some years, was to be found only in manufactories or theatres. At length, in 1807, one side of Pall Mall was lit with gas, and, from this first lodgement, it gradually spread over the whole metropolis. Now it flows under every street, beneath every alley; and we walk over latent fountains of light, which, sealed by day, at night throw up ten thousand jets, investing the great city with a galaxy of its own.

Wonderful as was the progress of science, in all its branches and bearings, it did not outstrip ART; and that beautiful creation of genius reflected the advances of knowledge. It was, indeed, no longer restricted to a particular spot, or linked with the efforts of individuals, but threw itself broadcast on society, spreading its civilizing influence over the world. Thus a host of great names impart a fresh halo to painting, sculpture, and music. To specify the labours of each master, would carry us beyond our limits; and we can only glance at the illustrious few

who stand out amidst the throng, giants among giants, like the Colossi of the Egyptian statues, figures for all time to mark and contemplate.

Peter Paul Rubens takes a front place in this mighty band. He gave extension to art by developing its latent capabilities, its depth, breadth, and fulness, communicating to the canvas an air of reality which it had never before attained. He had all the artistic power of Raphael, and, perhaps, eclipsed that great man in fertility, in versatility, and even in invention. His historic groups are veritable embodiments of the great events of the age, representing equally the actors and the action, while the ordonnance and mass, the grasp of the composition, are not more truthful than the colour. By this means Rubens has achieved marvellous effects. A single dash of the brush represents with amazing force what had previously embraced an infinity of small lines. Apparently, if there is more nature, there is less art in such treatment; but this is because art has obtained its highest development, and steals nature's complexion. With all his sublime gifts, Rubens, however, did not reach the spirituality of Raphael. His religious paintings want the elevation, the grandeur, and the divine light of that august master. They do not present the same perception of the holy in-

stincts of his subject. Amidst a flood of glorious tints, we are sensible of a Dutch coarseness, which mars the sentiment and weakens the illusion. Still, they are noble pictures; and the rich colours of the *Tribute Money*, and the more serene splendour of the *Holy Family*, dwell in the memory long after they have passed from sight.

Rubens was a native of Cologne, and was born amidst the troubles which raged so fiercely in the Netherlands at the close of the sixteenth century. At an early age he evinced unmistakable indications of a genius for art; and in the studios of Verhaeght and Adam Van Oort, two artists of Antwerp, was initiated in its mysteries. The patronage of the reigning family secured him every encouragement, and, under their auspices, he visited Italy, and studied the productions of Raphael, Titian, Tintoret, and Veronese. He was subsequently intrusted with a mission to Spain, and here had the free range of the royal galleries, drawing new light from the mellow hues of the Spanish masters. Meanwhile, his own powers, which had never slept, acquired a force and expansion, prophetic of his future greatness. Each new effort extended his fame, and in proportion as he enlarged his reputation, he increased his wealth, till, at length, fortune made him the recipient of all her favours, and he

lodged in a palace, and was the friend and confidant of princes.

Less auspicious days fell to the lot of Hogarth, nor does he take such a high place on the roll of fame. Yet in originality he was not inferior to Rubens, and, in the class of subjects to which he devoted himself, he exhibits equal felicity of conception. By no other artist but Wilkie has the assertion that a picture is a poem without words been so perfectly realised. Each of his paintings is, as it were, a chapter in a story, a scene in a drama, with the whole action simultaneously represented. There is a Chinese accuracy in the delineation, which embraces the minutest details; but what would produce a literal impression under a mechanical hand, is here, by a pervading electric touch, made powerfully conducive to the effect, which is invariably imposing and vivid. We are arrested by the mass, by the spectacle, even before we note the dramatic grouping of the figures, and the infinite number of the objects. The artist has taken an inventory of a room, of a street, and translated it to his canvas—the room, with its furniture and adornments, all its points and all its blemishes, to the cobweb overlooked by the housemaid; and the street, with its gables and abutting windows and pendent signs, down to the gully in the pavement. The

same attention to details is maintained in his figures. Each is dressed in the properties of the character, to express by point, fashion, or colour, by a speciality of air or toilette, some quality of the mind, habit, predilection, or instinct. But character is especially portrayed in the face, even to a degree that recalls the old masters; and often with kindred coarseness. Hogarth, indeed, seldom rises to refinement. He rather courts the repulsive, and parades and plays with it, insomuch that some of his terrible delineations, while they enchain and fascinate the eye, make the blood and flesh creep. There is, so to speak, a brokerage of horror, in the same inventory style as his rooms and streets; and every item is catalogued and labelled with scrupulous fidelity and care.

Wilkie is not less graphic, but he never swerves from the picturesque. His figures, colours, and scene, his whole treatment, have this dominant aim, which is diffused over the subject like its varnish. He is indeed a poet—poetic in conception, in creation, in execution, pouring out his melodious thoughts in a thousand rainbow hues, and charming us with the grace, the harmony, and the pathos of his touches. What grouping! what exquisite combinations and felicitous distinctions of light and shade! But

away with criticism, when we look at such pictures as these! They appeal not only to the eye, but to the heart, to the innate sense of the good and beautiful, which God has shed in every breast. Let us say once more, Wilkie is a poet —the poet of art, making art the mirror of nature. To him it is a light thing to depict the deepest emotions of humanity—to show, on twenty inches of canvas, the body of the time, its form and pressure. There is something Shakspearian in him, grafted on Goldsmith and Burns—the Goldsmith of *Wakefield* and *Auburn*, the Burns of *Saturday Night* and *Robin Gray* and *Highland Mary*, not omitting a spice of *Tam o'Shanter*. His humour, indeed, is as effective as his pathos—as natural, as genuine. Sometimes sly and quiet, sometimes uproarious, but never coarse, it always contributes to the effect and glory of the picture. Thus the emotions all breathe their own music—love, sympathy, devotion, sorrow, joy, hilarity, forming a grand concert of feeling and sentiment, at which no one can be present unmoved.

What Wilkie was to the heart, Turner, in his unconstrained efforts, was to external nature, to the hills, woods, streams, and meads, to the changing clouds, to the mighty sea. Figure-drawing was not his vocation—unless it were to

sketch, with rapid touches, a group of ethereal forms, a fairy throng, seeming ready to melt into thin air, or merge in the flood of light which surrounded and enveloped them. But, even when feeblest in the figure, he was potent in sympathy, equalling Wilkie in love of his kind, and earnest communing with human feelings. Both had experienced the uses of adversity, in the stern ordeal of training and toil, and the hand-to-hand battle with fortune, which merit in humble life can never decline. This was the school in which they had developed, with their art, the precious germs of instinctive tenderness. Not greater was the inspiration which the poor barber's son drew from mountain, wave, and forest, from the ever-varying hues and fantastic shapes of the clouds, from the glorious sun, and the flashing lightning. But here he acquired those prismatic tints, which gave him such command of light and colour, as if his brush had been dipped in the dew of morning. There was no end to the exuberance of his fancy, the grasp of his perception, and the infinity of his invention. For a sea-piece, what could surpass his *Calais Pier?* For a battle-scene, take his *Temeraire*, in all the glory of her triumph and wreck. But it is in landscape that Turner is unapproachable; and now by his exquisite trees, now by re-

ceding mountains, carrying us away to distances beyond measurement, and producing effects which leave a permanent impression on the mind, making it a gallery of beautiful memories. This is especially true of his *Childe Harold's Pilgrimage*. Such a perfect mastery of colour was never before achieved. We gaze in wonder at the flowing river, the purple mountains, the city rising in the distance, here every object broad and clear, there more subdued, and there again marked by the slenderest threads of colour, forming a composition as immense as sublime. It is the very embodiment of the poet's verse, soft, dreamy, voluptuous, with the twilight influence of his darkened spirit just perceptible. Turner used light and shade as if they were colours on his easel—caught a wreath of mist and spread it over his hills, showing the most brilliant hues beneath, like beauty under a veil. But no mortal can guide the chariot of the sun, and the attempt could only end in extravagance and failure. *Caligula's Villa* is dazzling and imposing, full of lovely effects. But it is not a landscape, and we can almost imagine the painter has been deluded by a mirage. Greater lapses occur in later performances, till all trace of the picturesque, once Turner's dominant characteristic, quite disappears. The artist is bewildered

in the maze of his conceptions, blinded by his own light; and the glare of colour in his final efforts is often no more than a daub. As memorials of Turner, however, they are not without value, and though for a time they affected his popularity, they no way shake the pedestal of his fame.

Science and modern ingenuity have come to the aid of the painter, in diffusing a taste for his art. The invention of lithography by Sennefelder has multiplied its accessories; and the discovery of photography, by which objects are traced on chemical paper through the medium of light, has given art a new domain. This beautiful invention was first established by Wedgwood and Sir Humphry Davy; but was more fully developed by Daguerre, and has recently been brought to perfection by the processes of Talbot, Hunt, and Sir John Herschel.

It is certain that the English people, whose practical character from the first appreciated science, have now, after a long sleep, awakened to a perception of art, as if just aware of the leading place they have obtained in both fields, through so many august Englishmen. The popular taste is evidenced by the wide circulation of illustrated periodicals and newspapers, which, at the same time, serve to sustain and extend

it; and the recent Art Treasures Exhibition at Manchester broadly symbolizes the movement. Here, indeed, in the noblest palace man ever reared, art and science seem to have met, joined hands, and formed a Holy Alliance; and it is remarkable that the originator of the undertaking, Thomas Fairbairn of Manchester, is the son of a great pioneer of science, William Fairbairn of Birmingham.

Sculpture did not progress in the same ratio as painting. Mistaken ideas as to the principles of art, which infected both painters and sculptors, told more on the marble than the canvas, and, erecting a false standard, checked the development of original power. Genius was tied down as effectually by conventional rules, as if the theocratic laws of ancient Egypt were still in force; and, by common accord, the contour and proportions of a figure were required to conform to the regulation pattern. This, spurning the antique, ambitiously sought to create new types of beauty by improving on nature, ranking the prentice-hand of modern art above Phidias and Praxiteles. A mud cabin in a secluded valley of the Alps sent forth a prophet to denounce this heresy; and Canova, the son of a stone-cutter, revived the splendour of ancient sculpture.

The great part reserved for Canova was presaged in his childhood, when he gave evidence of such innate power and correct taste, that he attracted the notice of the Marquis Falieri; and the generous nobleman determined to give him the benefit of proper instruction. Accordingly, he was placed in the studio of Toretto, a statuary of some mark, and received such training as was then in vogue; but when only fourteen years of age, he had exhausted the cunning of his master, and was removed by Falieri to Venice. Here he made such rapid progress, that, in power of treatment, he became a consummate sculptor, almost before he attained manhood; and, in each new achievement, strayed further and further from conventional modes, taking Nature for his model, and, at length, establishing her as the true standard of excellence. His statue of *Orpheus* elicited universal applause, and, after an interval of study, was followed by his *Theseus* and *Minotaur*, which, with subsequent productions, won for him the great testimony that

'Europe, the world, has but one Canova.'

England has the honour of giving birth to his successor. The 'sculpture of the heart,' as it was designated by Canova himself, was carried

to its highest perfection by Francis Chantrey, and, under his chisel, marble took the

'—— form of life and light,
That, seen, became a part of sight.'

Like Canova, he was born in a humble sphere, being the son of a small farmer, who, in his youth, employed him in the drudgery of agricultural life. For such pursuits, however, the boy evinced so much repugnance, that it was determined to apprentice him to a trade, and, at his own request, he was bound to a carver and gilder at Sheffield. His talent was soon apparent, but a selfish and jealous master discountenanced its cultivation, and it was only by stealth that he could take lessons in drawing, while, with the same secresy, he employed his remaining leisure in modelling in clay. On the expiration of his indentures, he endeavoured to establish himself as an artist and modeller; but England possessed no Falieri to discern and foster his merit, and for some years he had to sustain a painful struggle. At length, fortune, which sometimes assumes the patron, came to his aid. A clergyman who was much respected died at Sheffield, and Chantrey modelled a bust of him, which, being exhibited, excited universal admiration, and so pleased the friends of the deceased, that they engaged the young

artist to execute it in marble, as a monument for the parish church. Chantrey had yet made no attempt with the chisel, which he was to wield with such potency, but he readily undertook the task; and with the mechanical assistance of a mason, who prepared the block, produced a bust of surpassing delicacy and truthfulness. He had now taken the first step on the road to eminence, and henceforward the hard marble became plastic under his hand, expressing the lines of grace and beauty, which could be but crudely represented in a model. He imparted to his figures such exquisite touches as it was marvellous to see. The limbs seemed to swell, the bosom to heave, the eyes, the face to kindle and beam. Here was the very semblance of life and thought and motion. The cold stone was vivified, spiritualised; and we were led out of the consciousness of its presence. Expression, symmetry, harmony, and grace were all there—the whole poetry of art, but in a manner that blended them with nature, a part and parcel of it, so that we saw and recognised the human soul. His *Sleeping Children*, in Lichfield cathedral, so placid, so perfect, enchased in such an atmosphere of innocence and loveliness, have the appearance of living beings, whom some necromancer has entranced; and, once beheld, are never forgotten.

The alliance of the fine arts is so intimate, that they mutually influence each other; and Sculpture and Painting drew along their sister Music in the same progress. The melodious science, as we have seen in our first book, owed its development to Pythagoras; for, though it had been practised from remotest times, the Grecian sage was the first to investigate its phenomena, and reduce them to a regular theory. Modern research has confirmed the Pythagorean doctrine that sound is the effect of undulations of the atmosphere, which may be produced either by explosion, or by the simple vibrations of a musical chord. But the ancients, to the time of Boethius, the last composer of antiquity, probably knew little beyond the first elements of music, which must, therefore, have been altogether dependent on syllabic laws. It was in the dark ages that its deeper harmonies burst forth, as if a nightingale were breaking the spell of night. About 1047, Franco of Cologne introduced the use of characters for time, ultimately ranging them in a TIME TABLE,[39] which after an interval of three centuries, was brought to perfection by John de Murus, a doctor of the Sorbonne. Something, however, it certainly owed to a Benedictine monk, Guido Aretinus, the father of

[39] Burney's 'Hist. of Music,' ii.

scientific melody, who is thought to have lived about 1222. The time-table may be considered the key of musical composition, giving it a scope and luxuriance which the genius of seven hundred years, prolific in great composers, has failed to exhaust. But the dulcet sounds of Guido were ever falling into new combinations, taking new flights, developing new principles. In his narrow cell, he attuned the strains, while he fabricated the mechanism of harmony, charming the ear with its delicate variations. Here it was that he struck out the device of COUNTERPOINT.[40] He extended the musical scale of the Greeks, adding lower and higher notes, and thus, at the same time, varying, softening, and enriching, giving it a more forcible and a more fluent character. From the circumstance of his placing the Greek letter *gamma* under the last sound, the whole scale was called *gamut*,[41] and the accidental and unmeaning name is still retained.

The introduction of printing had the same effect on music as on every other branch of knowledge; and, from that period, it began to be more assiduously cultivated, and more widely understood. Previously the study of musical

[40] Burney's 'Hist. of Music,' ii.

[41] 'Origine de la Langue Française.'

composition had been limited to priests and monks, who, indeed, were almost the exclusive possessors of the rare manuscript treatises on the art, and the only persons who could read the jargon in which they were written. But the press multiplied copies of these precious tracts, and diffused their arcana over Europe, in the familiar language of each country. Italy, so long the queen of harmony, now found her olive crown endangered by Germany; and it is remarkable that the four greatest composers of modern time have all risen in Central Europe. One glorious century produced Handel, Haydn, Mozart, Beethoven! a succession, a gamut of melodious spirits, who thrilled the world with their liquid notes. They seem to tell us that music is instinctive in the mind, rising out of it by its own sympathies, without precept, and almost without training; for each of these wondrous men was born a composer. Handel was a performer at Berlin, and received pupils when only thirteen years of age, obtaining by his exertions a sufficient income to maintain himself and afford considerable assistance to his widowed mother. His noblest compositions were produced in England, in his advanced years; and the oratorios of the *Messiah* and *Jephthah* are lasting memorials of his genius. Blindness closed

his eyes, paralysis seized his limbs, but neither affliction nor age could silence his lyre; and like Milton, like Homer, he still poured forth his lofty strains, which, at seventy-five, were only hushed by death.

John Chrysostom Theophilus Mozart exceeded Handel in the precocity of his talent, being pronounced a brilliant performer before he had attained his ninth year. At twelve, he produced an opera, which was brought out with great success; and his extraordinary powers continued to expand, with a progressive ratio of excellence, to the day of his death, when he is believed to have composed his sublime *Requiem*. He died in 1791, after a brief life of thirty-six years; but during which he had contrived, by his untiring industry and exquisite skill, to raise himself a name that can never perish. Nobler epitaph he could not have than the generous encomium of Haydn, who was asked by Broderip, the music-seller, his opinion of Mozart's posthumous compositions, which had been offered for sale by his widow, when he said—'Buy them by all means. He was truly a great musician. I have often been flattered by my friends with having some genius, but he was much my superior.'

Yet in this tribute to a deceased competitor,

Haydn was unjust to himself; for, in the temple of melody, his place must be the highest. Who can listen without emotion to the swelling passages, the soaring flights, the thrilling effects, which mark the presence of inspiration, the grasp of his mighty spirit, in all his compositions! His symphonies astonish by their grandeur, variety, and compass. But in their full, mellifluous tones, we yet recognise his simplicity and pathos. The story of his life seems to float in their varied cadences. We see him in the hut of his father, the wheelwright, listening to the untaught strains of his harp, and accompanying them with his voice. We behold him a chorister in the cathedral of Vienna, with the great organ streaming forth its tide of sound. Then the performer, the composer! All, in turn, comes out in the ever-changing melody, now in the cottage, now in the temple, now raising our souls from earth to heaven. His operas exhibit the same felicity and invention. But his oratorios, and more particularly *Il Ritorna di Tobia* and the *Creation*, are unapproachable. They indeed give to music its noblest embodiment, its highest expression; and we yield unresisting to the spell of a magician.

Eleven was the age at which Beethoven stood

forward as a composer. Handel assumed his mantle at thirteen, Mozart at twelve, and now Beethoven at eleven. Here was a chain, a dynasty! These earthly cherubim, all linked together, found their inspiration in the divine heart of youth. Beethoven was as consummate a performer as composer, in both original and grand, sublime and extravagant! Yet this monarch of sounds was deaf. At twenty-eight his ears were hermetically sealed,[42] so that not the loudest peal of the organ, not the loudest peal of thunder, could penetrate their portals. Hence his softest notes fell so low, died away so completely, that the pianoforte could not express them. He played on, unconsciousthat his master-touch invoked no sound. Surrounded by eager thousands, silent and breathless, with every eye bent on his gaunt form and haggard face, he awoke tones audible only in his own soul, following the imagined strain with rapt attention till, ascending the scale, it burst forth in a flood of tenderness. Then—

'Through every pulse the music stole
And held sublime communion with the soul,
Wrung from the coyest breast the imprison'd sigh,
And kindled rapture in the coldest eye.'

The diffusion of science and art naturally

[42] 'Life of Beethoven.'

communicated a great impetus to human ingenuity, and this has led to numerous mechanical contrivances, fruitful of benefits to society. Time was, when it was impossible to introduce and dangerous to originate such inventions; and Beckmann affirms, that the council of Dantzic, at the close of the sixteenth century, condemned the inventor of the ribbon-loom to be strangled.[43] Richelieu threw the first prophet of the steam-engine into a madhouse, where he was found by the Marquis of Worcester, who, on returning to England, published a pamphlet on the subject, without incurring the same penalty. Macaulay, however, tells us that he was suspected to be a madman, and known to be a papist.[44] In more recent times, inventors have not been hunted down as enemies of mankind, though there appears to be still a lurking suspicion of their sanity. But if they have the resolution to encounter every difficulty and face every discouragement, the propagation of their discoveries is not considered a crime; and some have even reaped a pecuniary reward from their success. In 1767, an itinerant barber, named Richard Arkwright, submitted to a banker at Nottingham a project for employing mecha-

[43] 'Hist. of Inventions,' ii. 528.

[44] Macaulay's 'Hist. of England.'

nical power in spinning cotton thread; and an attempt was made to introduce the invention. It was afterwards taken up by an eminent manufacturer named Strutt, who, in conjunction with his partners, embarked a large sum in the undertaking; but the result was not commensurate with the outlay, and the firm were on the point of giving it up, when Arkwright, by a happy contrivance, imparted increased efficiency to the machine. Its triumph was now complete; and as the invention was secured by a patent, the profits accruing to Arkwright were incalculable, speedily raising him to the position of a millionnaire.

The power-loom was introduced in 1787. This was the invention of a clergyman, Edmund Cartwright, who had his attention drawn to the subject by observing the spinning machine; but, like Arkwright, was repeatedly foiled before he accomplished his object. Dr. Cartwright also foresaw the future mission of steam. The capabilities of this agent, indeed, were now beginning to engage general attention; and the time approached when it was to give the crowning momentum to mechanical power. Various names are associated with this miracle of human skill, but the final glory rests with Watt, who first thoroughly mastered the principles of steam.

Watt investigated the phenomena of evaporation in connexion with various degrees of heat, ascertaining the relative proportions of quantity, force, and effect, and thus reduced the unknown element to scientific data. His next object was to construct a vehicle for the mighty powers he had discovered. Fortunately he was an incomparable mechanician; the delicate skill of his hand equalled the grasp of his mind and the versatility of his faculties; and bringing into play all his cunning, shrinking from no obstacle, and yielding to no difficulty, he ultimately produced that wondrous machine, which may be pronounced the perfection of human invention.

The first principles of Mechanics were only developed by Lagrange; but the Steam Engine, in which they were practically embodied, was the dream of ages, and even seems to have been dimly conceived by Theon. A cumbrous steamboat was actually constructed by a Spanish mathematician, in the reign of Charles the Fifth, and made a successful experimental trip in the harbour of Barcelona; but the machinery was considered dangerous, and though a reward was given to the inventor, the vessel, which had been built with so much labour, was broken up, without any description of the mechanism being preserved. In 1629, Brancas, an Italian, designed

a stamping engine, with steam for an impelling power. The fire engine of the Marquis of Worcester, the digester of Papin, the machine constructed in 1699 by Captain Savery, for raising water by the expansion and condensation of steam, were successive developments of this great impelling power. Watt applied it to almost every description of machinery; and the collier-boy, George Stephenson, afterwards the great engineer, gave it the final triumph of the LOCOMOTIVE.

Our history of human achievements commenced with the Ark, the magnitude of which has never been approached, or even considered attainable, by the boldest shipwright of any succeeding age. It is only lately, indeed, that shipbuilding has escaped from the trammels and conventional rules which have tied it down to certain models, as arbitrary as the statuary of ancient Egypt. The builders of the Clyde and the American ports were the first to introduce new principles, and their success was soon evident, in the fleetness of their clippers and iron ships. Step by step the art has advanced, producing ships of greater and greater magnitude, and engines and screws of increased power, till we are now launching a *Leviathan*, which is of even greater dimensions than the Ark. This colossal

ship will move with a speed hitherto unparalleled, her steam power, by paddle and screw, being equal to 11,000 horses, and her spread of canvas will comprise 6,500 square yards. Her tonnage is 22,500 tons; her length 680 feet, by a breadth across the paddle-boxes of 114 feet, and a depth of 56 feet. The dimensions of the Ark were, in English measure, 450 feet in length, by an uniform breadth of 75 feet, and a depth of 45 feet—taking the Jewish cubit at eighteen inches. Its capacity to accommodate the freight for which it was designed, together with all the necessaries for sustenance—a point which has led to endless dispute—is proved by the capabilities of the *Leviathan*, which, though so little exceeding it in size, is intended to carry 4,000 passengers, with a certain amount of cargo, luggage, and ship's stores, provisions and water for forty days, and, finally, sufficient coals to supply a daily consumption of thirty tons for the same period.

The subjection to science of steam is not more wonderful or more complete than its mastery of the sister element of electricity. Galvani and Volta by their batteries, Davy by his researches, and Franklin by his conductor, all, in their degree, contributed to the great work. Franklin conceived the idea of attracting lightning by flying a kite; and, without considering his per-

sonal safety, made the experiment, narrowly escaping with his life.[45] The appellation of 'father of electricity' is the noble reward of his devotion to science, but does not typify the deep sympathy, the warm love for his fellow-men, which was the pervading dominant trait of his character. Having succeeded in attracting, he thought it practicable to guide the descent of lightning, so as to prevent it from injuring elevated buildings; and this he proposed to effect by means of pointed iron rods, which should conduct the electric fluid to the ground. Little attention was paid to the suggestion in England; but a French philosopher carried it into practice,[46] and the result was so decisive, that conductors immediately came into general use.

Fresh discoveries in electricity have been made by Oersted, who has caught the mantle of Franklin, and opened to science new channels of investigation. But the most amazing fruit of electrical research is the telegraph, which, like all great inventions, embraces in one result the combined ingenuity and knowledge of various individuals and countries. Wheatstone, Lardner, and Newall represent England, Bregnet, Froment, and Leverrier France, and Morse America, in this league of genius, though the way was pre-

[45] 'Life of Benjamin Franklin.' [46] Franklin's 'Autobiography.'

pared for their approach by earlier explorers, who steadily pursued the same object.

Electricity opened to us the mysteries of magnetism, from which Gilbert educed a magnetic theory, based on polarity; and electricity and galvanism, as sister elements, naturally assumed a corresponding adjustment. Again the lightning flashed over the sky of science; and, following its course, Faraday discovered a property antagonistic to magnetism, and to which he has given the name of diamagnetism. Ampère has solved the integral constituents of a magnet, and pronounced them an aggregation of involved voltaic circuits. And, lastly, Airy, exploring the same wide field, has regulated the variations of the magnetic needle in iron ships.

It is impossible to estimate the ultimate effects of the alliance of such mighty powers with human intelligence. The trackless steppes, the solitudes of America and Asia, which have never emerged from a state of nature, are now opened to civilization; and, in every quarter, railroads are driving their iron way through forest, swamp, and prairie, bridging rivers, and piercing mountains, carrying the blessed influence of communion into dreary wastes, where man, when existing at all, has hitherto been as the wild beast, fierce, treacherous, and untameable. India

can no longer take pride in her elephant, bearing a garrisoned castle on his back: Arabia may tremble for her camel, the ship of the desert. Here, swifter than swiftest steed, ever fresh, vigorous, and unwearied, comes the mammoth engine, puffing and shrieking in the plenitude of might, shaming the camel by the fountain in its breast, mocking the elephant by its prodigious freight, of which elephants and their castles may form but a part. On, on, it flies—Courier and Caravan, Benefactor, Missionary, and Apostle, conjuring up cities on its route, sowing lands, fertilising wastes, and founding empires, penetrating, in the vast jungles of Hindostan, the very lair of the tiger, the last retreats of ignorance and superstition, and spreading everywhere the light of Christianity. Through the woods of Canada, across the Atlantic, by the side of the rushing Euphrates—on through marsh and jungle to the door of Juggernaut, into the valley of the shadow of death, comes this thing of fire and light, glorious traveller and teacher, whom neither calm nor tornado, ocean nor mountain, king nor priest can stop.

What was the exploit of Schiller's diver, plunging into the whirlpool, dragged down by eddies and currents, menaced by the jaws of reptiles and monsters, and sinking to rise no

more? With the diving apparatus of modern times, he could have descended with ease, and returned in safety. Amidst the wonders of the deep, its caverns and grottoes and coral reefs, its serpents and leviathans, in the lowest bed of the ocean, he might now trace a thread of human thought, binding continent to continent with a cable of lightning. While a storm sweeps the surface, and lashes the foaming waves into mountains, far below the electric wire is bearing the message of assurance or comfort, announcing to the merchant that his good ship is in port, to the widowed mother that her son is safe. Time and space are no longer recognised: action and diffusion are simultaneous; and soon we shall experience the truth that the ends of the earth are indeed met, when the wants, the abundance, the whole economy of one region will be immediately reported in another, and society frame its policy accordingly. Hence there must arise an identity of interests between nation and nation, a very bond of fellowship, not more conducive to the extension of commerce than to the propagation of science, the spread of the arts, and the advancement of knowledge, civilization, and religion.

V.

NEW LIGHTS.

Our last chapter will have shown that, in the course of three centuries, science, discovery, and invention, the great sources of knowledge, attained a higher development than in the whole anterior period of the world's history; and it is hence evident that the human mind had received some extraordinary impulse, which carried it irresistibly forward. This momentum might indeed be ascribed to various influences, brought simultaneously into action; and the introduction of the mariners' compass, the invention of printing, and the diffusion of learning over Europe on the fall of Constantinople, all, in some measure, contributed to the result. But, more than any and all of these causes, the Reformation operated to unfold and enlarge the powers of reason. Fortunately there is no need to dwell here on the details of that great struggle, which might involve remarks of a controversial character; and it is sufficient for our purpose to note its presence, and indicate its effect on the intellectual progress of mankind.

The Reformation must not be regarded as altogether a religious movement. The religious element was indeed ultimately embraced by it; but it had its rise in political circumstances—in the vast revolution attendant on the disruption of the feudal, the introduction of the municipal, and the consolidation of the monarchical systems. In the general ferment of society, new interests grew up, new combinations were formed; and, while thought found freer action, men were brought into closer communion, thrown more on their own guidance, and accustomed to depend on themselves. A radical change had been effected in the constitution and organization of nations. Monarchs, palatines, nobles, once superior to all law and restraint, had successively yielded to popular encroachments, and admitted some check on their authority. The Church alone maintained its ascendancy, never dreaming of reform. The Albigenses were exterminated; Wickliffe, protected by John of Gaunt, had been allowed to die unmolested, but his tenets were rooted out with fire and sword; and John Huss died at the stake. But while the Church slumbered in false security, no interest was in such jeopardy; for, in point of fact, papal domination was arraying against it all the powers of society. Kings

had viewed it with jealousy and repugnance, even when reduced to hold the Pope's stirrup, and place their necks under the foot of his Legate; nobles cast their eyes moodily over the broad lands, which the various monastic orders had wrung from the piety or superstition of their ancestors; the common people, who had recently won concessions from both kings and nobles, were impatient of the yoke of the clergy. But spiritual rule is more difficult to overthrow than the strongest temporal dominion; for, though less visible, it is more real, because enthroned in the mind. Such shadows have more terrors for the soul than all the substance of armed battalions. The supremacy of the Popes, so firmly established by Hildebrand, the seventh Gregory, might boldly challenge even the gates of hell, while it retained this ghostly charter. But, in an evil moment for her supremacy, Rome forgot the secret of her strength, and, throwing away the crook, grasped the sword. Historians have laid much stress on the effect produced by the great schism in the Church, which divided Christendom between two rival Popes, destroying the impression of infallibility; and, in such a spectacle, it might certainly seem as if Israel were again dismembered, two tribes

maintaining their allegiance to the apostolic see, while ten set up another Pontiff. But the real shock to papal authority was given at an earlier date, when, supreme as a spiritual, Rome aimed to rank also as a temporal power. The two positions were incompatible, and from this moment her traditional hold over the minds and souls of men was shaken. When she brought an army into the field, she relinquished the more potent artillery of heaven; and a triumph over some petty Italian principality, now in conjunction with France, now in alliance with the Emperor, was dearly purchased with the spiritual sovereignty of Christendom.

When, at length, the long-gathering storm burst forth, the papal chair was occupied by a prince of superior abilities, of generous sentiments, and of tastes so splendid, that, in the verse of one of our poets, he has given the epithet of *golden* to the age he adorned. Love of literature and the arts was hereditary in the house of Medici, but none who bore that name was a more munificent patron than Leo. His court was the resort of all the great lights of the day, sculptors, painters, musicians, poets, all who aided the march of refinement, intelligence, and civilization. No one could appreciate so justly their respective merits, and few were the

princes who treated them with such honour, or rewarded them with such liberality. But the eye that could detect the slightest blemish, or instantly discern the touch of a master in a picture or a statue; the mind that could catch the salient rays of a poem, or the gist of a philosophical treatise—in short, the man of art and letters, the connoisseur, great in the study and the studio, might be wanting in some of the essential qualities of a ruler. Such, in fact, was the undeniable deficiency of Leo. The age called for a giant, who would throw himself on the whirlwind, and ride the storm—who would exhibit at once the priestly virtues of the great Gregory, the masculine vigour of Hildebrand, the ambition, zeal, and restless activity of the third Innocent. Leo was polished, accomplished, and indolent. His Italian subtlety could not supply the place of calibre; and in his little political intrigues, he was overreached by the craft of Maximilian and Charles. In 1512, at the Diet of Worms, he procured an edict of outlawry against Luther;[1] but measures had previously been taken for the Reformer's safety; and the faithless Emperor connived at the arrangement.[2] For a time, however, Luther disappeared: no

[1] Robertson's 'Hist. of Charles the Fifth.'
[2] Ranke's 'Hist. of the Popes.'

one could penetrate his retreat, and he was even believed to have been murdered.[3]

The diplomatic and military successes of the Pope were celebrated at Rome by public rejoicings, such as had not been witnessed for many a day in the eternal city. Leo himself gave way to exultation, looking forward to a long life of enjoyment and triumph. From his chamber he could discern the illuminated streets, catch the sound of the distant music, hear the tramp and shouts of the populace. But, while he gazed and listened, he felt a chill creep through his veins, and a numbness seize his heart. There was an interval of hurry and confusion, when the last sacrament was called for, and before it could be administered, Leo was dead.

The conclave debated long over the choice of his successor. Never had parties been so evenly balanced, and never had conflicting influences been so busy at work. On the other hand, the faithful might expect that, at such a crisis, the election would be more especially guided by divine inspiration, raising up a champion for the Church in her hour of need. 'Sirs,' cried the Cardinal de Medici, after a protracted pause, 'I perceive that of us who are now present not

[3] Ranke's 'Hist. of the Popes.'

one will be chosen; for those proposed by me have all been rejected, and your candidates are equally unsuccessful: we must, therefore, select a Pope from the Cardinals who are absent.' The proposition was well received; and, to the surprise of every one, the election fell on Adrian of Utrecht, Cardinal of Tortosa, who was said to be aged, and was reputed a Saint, but was a stranger to all present.

The conclave, whatever its aspirations, could not have found a more reverend man. But, in reference to the interests confided to him, he was more than this; for while he was famed for the sanctity of his character—while he possessed a comprehensive judgment and a vigorous intellect, he was alive to the tendencies and reforming spirit of the age. From the midst of the Vatican, seated on the papal throne, and surrounded by the insignia of spiritual authority, he spoke of things around him in language that might have emanated from Luther:—'We know that for a considerable period many abominable things have found place beside the holy chair—abuses in spiritual matters—exorbitant straining of prerogatives—evil everywhere; we are all gone astray; there is none that hath done rightly; no, not one.'[4] But such corruptions

[4] 'Hist. of the Popes.'

could not be corrected in a day; and, meanwhile, the doctrines of the Reformers were spreading, taking deeper root, throwing out new shoots, surpassing the grain of mustard seed in rapid growth, luxuriance, and fecundity. To such a progress Rome could oppose only the feeble barrier of the Jesuits, a society founded by a fanatic, named Ignatius Loyola, and which proposed to arrest this mighty movement by enslaving the human mind, tying down Samson with cords of flax. But let us now briefly glance at the Captains of the Reformation, and sever the subject from all fanatical—all sectarian bias. After an interval of three centuries, those august men may claim the forbearance and charity of mankind—claim to be regarded as the archetypes of a new system, kernelled in the depths of society, and bound up with its destinies.

The ablest champion of the liberal papal party was Erasmus, a native of Rotterdam, who, however, so feebly supported the cause that he offended his friends without conciliating his opponents; and, in speaking of the Reformation, it was commonly said that Erasmus laid the egg, and Luther hatched it. He bore an honourable testimony to the character of Luther, declaring that 'his life and conversation are uni-

versally commended, and it is no small prejudice in his favour that his morals are unblameable, and that calumny itself can fasten no reproach on his life.[5] At the same time, he made furious attacks on the monks, for whom he had conceived a great aversion—perhaps from a remembrance of the severe discipline of his monastery, which he had been compelled to enter at the age of fourteen. But such opinions, freely admitting what was vehemently denied, were calculated to throw suspicion on his attachment to the Church of Rome, though he repeatedly declared that it claimed his undivided adhesion, as 'a true *part* of the Catholic Church.' It must be owned that Erasmus, with all his great gifts, wanted that integrity of purpose which emboldens men to proclaim their doctrines, at whatever personal risk; and, as he acknowledged that he had not the courage to be a martyr, there will always be an aspersion on his sincerity. On occasions he certainly appeared crafty, temporising, and servile; and, while he pointed his wit at the failings of the monks, he was himself not indifferent to pleasure. There is a story of his monastic life, often repeated, which, whether true or not, presents a happy illustration of the man—in his alertness, invention, littleness, and

[5] 'Letter to Cardinal Wolsey.'

meanness. In the garden of the monastery was a pear-tree, the fruit of which was exclusively appropriated by the Abbot, who prized it extremely. Unfortunately it possessed the same attractions for Erasmus, who every morning made his way into the garden before his brethren were up, and stole so many of the pears that the Abbot, discovering the inroad, determined to keep a watch. Next morning, Erasmus was descending from the tree, laden with the forbidden fruit, when he discerned his Superior at the window, observing his movements; and for a moment detection seemed inevitable. But, reflecting that it was too dark to distinguish his features at such a distance, the scholar rallied, and limped off to the monastery, imitating the gait of one of the monks who was lame. His stratagem was successful; the lame monk was charged with the theft; and the real delinquent suffered him to incur the punishment.

Erasmus may possibly have acquired his religious tolerance at Oxford, where he sat at the feet of Grocyn, and was the fellow-student of Latimer and Sir Thomas More. Here, too, he was instructed in Greek, which he completely mastered, and was the first to give to the world a Greek version of the *New Testament*, ema-

nating entirely from his own hand. This was a noble benefaction to religion, while it was a memorial of his industry and erudition. His *Adagia* spread his fame over Europe. Repeatedly urged to take up his pen against Luther, he yielded at length to the entreaties of Popes and Cardinals, and produced his celebrated *Diatribe de Libero Arbitrio*. But his arguments were far from satisfying the ultramontanes, while his *Encomium Moriæ* (Praise of Folly), written at the house of Sir Thomas More, excited their enmity, and certainly spared neither Church nor Pontiff in its sweeping satire. His *Colloquies* were written in a kindred spirit, and, after fourteen thousand copies had been sold in a few days, were censured by the faculty of Paris, then prohibited by councils, and finally condemned to be burnt by Paul III.

In the first bloom of his reputation, Erasmus visited Rome, and so great was the respect then paid to learning that the most eminent of the Cardinals, including John de Medicis, afterwards Leo X., contended for the honour of being his host. On visiting Cardinal Grimani, the poor scholar was not permitted to uncover, though a distinguished company was present; nor would the Cardinal suffer him even to rise on the approach of an Archbishop, but kept the

Prelate standing, while the monk retained his seat. In his later years Erasmus received pressing invitations to Rome from both Clement VII. and Adrian, with promises of high preferment; but he declined or evaded all overtures, fearing to trust himself in the eternal city. It would appear, however, that the papal government acted in perfect good faith; in the distribution of benefices, he was not forgotten; and in his last days he received the offer of a Cardinal's hat.

Erasmus cannot be acquitted of some degree of duplicity, and, in modern times, would be thought a trimmer, anxious to keep in favour with both parties, yet afraid to pronounce for either. Doubtless there were just and conscientious men who halted between the two opinions, thinking that each had something to urge, but might urge it with more moderation. Others there were who sincerely desired to see abuses corrected, and differences reconciled. But Erasmus, regulating his tone by his interests, pursued a tortuous course—was now reserved, now outspoken; and hence forms but a secondary figure on that canvas, which offered him a foremost place.

The Expositor, the Father of the Reformation, was Luther. Others have carried it further,

have theorised and refined on his work, and, here and there, added to the edifice a gable, pinnacle, or spire; but he it was who, at risk of liberty and life, laid its foundations. A monk, he voluntarily stepped out of the pale of the Church; peasant-born, the son of a miner, as a child begging his bread,[6] he scrupled not to uphold his doctrines before rulers and kings, drawing from his breast a torrent of natural eloquence that astonished diets and confounded synods. It is not our province to inquire here whether he was right or wrong in his conclusions; our narrative has simply to relate facts; and, in tracing the course of this stupendous revolution, we shall abstain from comments. The figure of Luther stands up in history; and whether we be Catholics or Protestants, Jesuits or Wesleyans, we cannot deny its grandeur, proportions, and magnitude. What if it present blemishes! We find them also in the Fathers, the Saints, the Apostles themselves! Luther was but a man, lower in origin than the fishermen of Galilee, low as Lazarus, an outcast and beggar. Shall we say, then, he had not a taint of coarseness?—that his words of fire were not tinctured with brimstone? Then he might from one point, indeed, seem less little, but he

[6] Michelet's 'Life of Luther.' i. c. 1.

would be altogether less great. More, he would no longer represent the spirit of his age.

A strange incident decided the destiny of the Reformer; so strange that, to a friendly eye, it might appear like a call. As he was walking through the streets, a flash of lightning darted from heaven, and killed the companion at his side.[7] The cry this accident wrung from him was a vow to St. Anne, that, if his own life were spared, he would become a monk. Thus he entered the cloister, in his twenty-second year, in the flower of manhood, throwing from him, without a sigh, the world and its pleasures. But the narrow confines of a cell could not hold a spirit that throbbed with prodigious aspirings, with sensibilities that never slept, with restless presentiments. Under his cowl, he looked in upon himself, on his own soul, on his nature: To an eye so rapt, all was foul and loathsome, and he seemed to be afflicted with a Job-like leprosy. In the depth of midnight, he started from his pallet, and desperately shook his chains —chains of clay and flesh, from which there was no escape. Fasting, prayer, penance, religious discourse and meditation, confession and absolution, failed to assuage his agonies, or soothe his frenzy. He was ever writhing under

[7] Michelet's 'Life of Luther,' i. c. 1.

the torment of Original Sin. It was the same phantom that haunted him afterwards in another shape. Witchcraft and sorcery, imps and familiar spirits, were the common delusion of the age; but the heated imagination of Luther gave the power of Evil a visible presence, brought Satan into his chamber, and engaged him in a personal conflict! In the convent he was haunted only by his sins, which were equally imaginary. Then he discovered what he considered an antidote, a panacea; and his shout of joy rang through Europe. The friar's cell, from being a refuge, where he could shut himself up with his awful thoughts, now became a prison and a tomb; and presently its stone walls fell before him as if they had been reeds. He stood in the world, and breathed freely. Pontiffs, Kings, and Emperors, principalities and powers, all bound in solemn league and covenant, could not again make him captive![8]

Thus he came forth from the cloister, the mighty Enthusiast! The field, with its corn of fifteen centuries' growth, was ripe for the harvest; and this Reaper of Brobdignag plied his sickle, levelling tares and wheat. The Gullivers of theology looked on, and wondered.

Reformers of religion have always exhibited

[8] Michelet's 'Life of Luther.'

heroism. Menu, Confucius, Zoroaster, and Mahomet were equally courageous and daring. Like them, Luther preached to a hostile generation, astounded by his innovations, and startled by his novelties; and, like them, he persevered. Buddha, the Enlightener, offered his body to a hungry tiger, in testimony of his love of animals; and Luther exposed himself to the stake in vindication of his doctrines. But Luther possessed what the Asiatic Reformers lacked, a native simplicity. He laid claim to no supernatural commission, and no inspiration. Whatever his doctrines—whether we consider them orthodox or heretical—they professed to be based on the Scriptures, and by this standard they must be judged. He wore none of the traditional properties of his character, affected no extraordinary sanctity, abstinence, studied airs, and phrases; but was at all times and in all places, plain and outspoken. Hence he committed some mistakes; but, as a whole, his conduct was above reproach; and he must ever be considered a great exemplar to mankind.

The movement originated by Luther was partially turned into a new channel by a French reformer, John Calvin, a skilled theologian, teacher, and preacher, active, indefatigable, and zealous. But Calvin was in some respects the

converse of his precursor. Calm and impassive, he was never borne away by impulse, and contrived, with decidedly inferior gifts, to take an all but equal place. But in his own country this prophet had no honour. France, indeed, was adverse to a religious emancipation, which proposed to abolish pomp and ceremony, to which her children are so attached. Moreover, the Pragmatic Sanction, while it secured her ecclesiastical independence, preserved her from some of those abuses, of which the other States of Europe complained. It was a French King, Charlemagne, who had, by the gift of the Roman territory, founded the papal see; and though resisting a spiritual thraldom, France now clung to her cause, when it was no longer ascendant. The papal interest was espoused by the populace; its champions were always found on the popular side; and though early implanted, Protestantism was foreign to the genius and character of the people. Even here, however, Calvin made so deep an impression, that, for a long time, France wavered between the two opinions, and Protestantism, surviving the civil wars, the massacre of St. Bartholomew, and the siege of Rochelle, was only extirpated by the dragonnades of Louis the Fourteenth. But Calvin found it necessary to promulgate his

doctrines from another land. His indomitable spirit, if thwarted, was not discouraged, and he girded his energies for a fresh contest. From the pulpit at Geneva, he thundered against Pope and King, admonished the magistrates, and lectured his flocks. From the press, he launched forth his famous *Institutions of the Christian Religion*, dedicated to Francis the First; and the dedication alone, by its sentiment, style, and diction, obtained for him a high literary renown. Yet Calvin's success is a marvel, which can only be ascribed to the mystic texture of our nature. His holiness none could gainsay, whatever may be thought of his doctrines. In fasting and prayer, and perhaps penance, he exercised himself beyond his strength, and beyond what he suffered to be known. He preached interminably, day after day, in pent rooms and to vast crowds, after long marches and journeys, straining his voice till the ear ached, and each delicate fibre of his worn frame till it was ready to snap. But the Asiatic gloom of his tenets seems calculated to excite consternation, and make the halting soul turn back. The Roman Catholic dogma of Faith and Works, the Lutheran Justification by Faith alone, are precise and simple propositions, which address the humblest understanding. Both

creeds admit the action of Predestination and Grace, but as media, as influences in the hand of the Supreme. But Calvin basis his *Institutions* on these awful mysteries. We pretend not to say he is wrong. As we have before remarked, our part, in tracing these manifestations of the mind, is simply to relate facts. But, in such a review, we cannot but be struck by an anomaly, which, apart from its religious bearing, seems to throw a light on the mechanism within us. Such is this spread of Calvinism, in spite of its exaltation of Predestination. Yet, on full consideration, it will not appear so surprising; for if, on the one hand, the doctrine excited misgiving, on the other it might inspire confidence. At the same time we are all, in one sense or another, more or less fatalists, ascribing things, according to our religion or philosophy, to Providence, destiny, fortune, or infallible laws. Thus Calvin appealed to a great dominant instinct. He attacked the human heart at an unguarded door, and carried it by assault.

Pious, austere, and self-denying, the Genevan Reformer seems not to have been free from spiritual pride, and certainly he showed no meekness in the exercise of authority. Luther, while chief of the German Church, and giving laws to princes and states, was often hard

pressed for a meal; and imitating the apostolic tent-maker of old, sought, by manual labour—as a mechanic, a turner, and a gardener—to provide for his necessities.[9] But Calvin reigned at Geneva a priestly despot. Once his supremacy was disputed, and he suspended the sacraments—placed the whole community under an interdict.[10] Could Innocent or Hildebrand have done more? In addition to this, he is charged with intolerance and severity. Those were stern days, before men's hearts were humanised, before they all esteemed, above every other precious thing, the most excellent gift of charity; yet, with every allowance for the times and the generation, we must lament Calvin's rigour, and especially deplore his share in the death of Michael Servetus.

The controversies awakened by the Reformation provoked much acrimony, and many disgraceful acts; but they begot, at the same time, a spirit of inquiry as serviceable to religion as to human thought. Indeed, whether the movement be regarded from a Roman Catholic or a Protestant point of view, few will deny that, from this period, the attributes and being of God were more closely investigated. The general discus-

[9] Michelet's 'Life of Luther.'
[10] 'Life of Calvin.'

sion of a subject hitherto almost sealed naturally led to some extravagance, opening, on the one hand, a disposition to theorise—as in the Puritans—ending in fanaticism; and, on the other, a turn for free-thinking, which resulted in infidelity. But we shall presently see that these evils exercised a beneficial influence, since they obliged divines to explore, with redoubled earnestness, the very foundations of the Christian faith, and thus to discover and establish their immutable stability. Scepticism and infidelity, indeed, were more easily met than the licentious zeal which perverted the narrow minds, and inflamed the imaginations, of fanatics, for a time inundating Europe with a swarm of Bedlamites. In Germany, in 1525, while Luther was still supreme, they assembled in arms; and, under the guidance of their prophet, Munzar, sacked castles and towns, devastated the country, and perpetrated the most barbarous acts of murder and rapine. Polygamy, equality, and universal communism were among the tenets of these fierce Anabaptists. A different leaven was diffused in England, and another century elapsed, before it began to ferment. Then it infected all classes of society, overturned the monarchy, brought the King to the block, and effected the strangest political revolution that the world has ever witnessed.

The dominant characteristics of the new movement were intolerance, austerity, ferocity, rant, and cant. Christianity, after sixteen centuries of ascendancy, was discarded, and Judaism was established in its place. The Old Testament became the exclusive text and oracle of the nation; a Koran, in which was written every word of history, of law, and of life. Men spoke its language, and lived in its incidents—were Gideons and Ichabods and Zerubabels, while their enemies were Jeroboams and Esaus and Agags. The world, in fact, was carried back to the darkest period of the Jewish monarchy, the Jewish theocracy, the Jewish war of extermination and occupation. Such a system necessarily opened a door for hypocrisy, and, at the same time, presented a target for wit, which, from being simply derisive, became profane. But Puritanism, as it fell from power, cast its slough of vanities, the scarlet robe of prosperity, and recurred to its original type. On the other hand, the scoffers retained their unbelief; but did little to render it popular, till they found an Hierophant in Voltaire.

The patriarchal lineaments of Puritanism may be traced in Bunyan, while Swedenborg preserves its rhapsody and mysticism. The *Pilgrim's Progress* is a complete exposition of the Calvinistic

doctrines, in a form that blends the impress of poetry with the interest of romance. But it not only exercises over the mind the spell of a beautiful composition, fruitful of incident and effect; it possesses also the charm of exquisite sensibility, expressed by a delicate perception of Scriptural precept. Quaint, fresh, and creative, affecting no pretence, yet showing at every point the trace of a fervid imagination, the allegory leads us on in *Christian's* steps, till we become the companions of his pilgrimage; and, while sharing his perils and adventures, insensibly acquire a system of divinity. *Christian* is indeed what his name imports, yet he is, at the same time, a creature such as ourselves, of the like feelings and passions, infirmities, failings, and impulses; and, even as we revere the saint, we recognise the stamp of humanity.

John Bunyan might present himself as a testimony to the truth of his leading doctrine—election by grace, by predestination, by the operation in the soul of a divine irresistible influence. A drunken soldier, a tinker, and a sabbath-breaker, a reprobate and blasphemer, he took such pleasure in vice, that he was never sated with it, but, in his lust of sin, wished himself a devil,[11] that his appetite might grow by

[11] Hare's 'Memoir.'

what it fed on. His ordinary language was so impious, his imprecations so awful, that men stopped their ears as he passed; and harlots turned to cry out against him.[12] Like Borgia, he was great amongst the wicked, so exceeding the vilest in depravity, that they shuddered at his approach. Guilt encircled his brow like a crown; the crown of Cain, soldered into the flesh; and the seven fiends were throned in a breast, which had never been swept and garnished. Swearing, cursing, lying, corrupting innocent minds, passing the day with evil companions, and the night in frightful dreams with imps and demons—from such a City of Destruction, such a Slough of Despond, came forth this *Graceless* with his burden on his back, conscience-stricken, soul-smitten, crying, 'What shall I do to be saved?'

We see him stealing round an old porch to listen unobserved to the godly women of Bedford: then walking moodily home, his eyes cast down, every one astonished at his altered demeanour. He is clothed, and in his right mind, sitting at the Saviour's feet, a convert and a preacher, the Augustine of the Reformation. Crowds throng to hear his teaching, drinking in his strong, burning words, so full of the repentance of his soul, of the sympathy of a fervent

[12] Hare's 'Memoir.'

spirit. He deals not in rant or cant, affects no charlatan tricks or clap-trap, but speaks simply, uttering the plain unvarnished truth, that touches a chord in every breast. The roystering graduate goes in to mock, and sinks down to pray: and the King on his throne hears of 'Bishop Bunyan.' He spends long years in prison, but he never repines; he bears no ill-will to his persecutors, speaks of all men in charity, and passes the time in holy converse, in the study of his Bible, and in composing his divine dream of a Christian's progress. Truth and simplicity are in all his thoughts, all his actions and words. 'Friend Bunyan,' said a Quaker, 'the Lord has sent me to seek thee, and I have been in several counties in search of thee.' 'Friend,' replied Bunyan, 'thou dost not say truth in saying the Lord hath sent thee; for the Lord well knows I have been in this gaol some years, and if He had sent thee, He would have sent thee straight here.'

The Regenerator of Mystic Puritanism was as simple, as earnest, as visionary as Bunyan, but he was a scholar and a man of science. The tinker Bishop had no lore but the Scriptures: Swedenborg, in addition, was deep read in the bible of nature. From his youth up, he was an attendant at colleges and hospitals, had sat at the feet of learned professors, and listened to the

expositions of anatomists. He had studied, experimented, and dissected, dived into mines, esolved metals, and gauged the everlasting rocks. His thirst for wisdom was insatiable—was like the famine in Death's stomach, absorbing all sciences and all philosophies. He put Pythagoras, Plato, Aristotle, Des Cartes, and Newton into a crucible, extracted their elements, and fused the whole in a chaotic mass. This nebulæ of knowledge still bore the mark of a constructive hand. It shone out ont he world in numberless volumes—with a light, indeed, not appreciable at first, but which, still like the nebulæ, is now being resolved into stars. In hard study and labour, in the application of science and mechanics to the uses of society, Swedenborg passed the heyday of life, and was a plodding, methodical, and practical man. Then he felt the magnetism of religion, and entered on the period of his illumination—or, might we not say, his occultation? Yet the practical mechanic and abstract philosopher now showed the lineaments of a poet, imagination, invention, and sensibility. Luther and Aristotle blended with mysticism, which threw a veil over both, like the curtain in Parrhasius's picture, and Swedenborg embodied all. His mind, indeed, had a Big-Ben compass, which swept the

whole chord: but if it now gives forth a perfect musical note, full and swelling, anon it grates the ear. At last, we wonder whether this great bell is cracked!

Mysticism was not in vogue at the period of Swedenborg's illumination: his theology, therefore, was but little studied; and it is only in the present generation, eighty-five years after his death, that he has become the founder of a sect. His era was engrossed by a graver debate, which called in question the first principles of religion; and, in the century and a half which divided the English and French revolutions, the tribune in this awful discussion was occupied, on the one side, by Hobbes, Spinoza, Rousseau, Voltaire, Hume, and Gibbon; and, on the other, by Bossuet, Fenelon, Bourdaloue, and the great divines of the Anglican Church.

Voltaire may be taken as the type and representative of the Atheist section. Born in 1694, a sickly infant, feeble and fragile, he gave little promise of reaching manhood, but, while retaining his bodily infirmity, he developed an Herculean robustness of mind, making verses in his cradle. His turn for satire early introduced him to the Bastille, where he composed his tragedy of *Œdipus*, and this production, exciting the admiration of the Duke of Orleans, procured

his release. He was not slow to pay his acknowledgments to the Duke, who, charmed with his wit, said at parting, 'Be wise, and I will take care of you.' 'I am infinitely obliged to your Royal Highness,' replied the poet, 'but I entreat you to give yourself no further trouble about my board or lodging'—a sarcastic allusion to his recent imprisonment.

Shortly afterwards, Voltaire made the acquaintance of Rousseau, but, regarding each other as rivals, the two authors were never friends. Rousseau showed him his *Ode to Posterity*. 'This is a letter,' said Voltaire, 'which will never reach the place of its address.' Such a sarcasm could not be applied to his own poem of *Henriade*, the finest epic in the French language, although, in creative power, it is very inferior to Milton. As an historian, Voltaire takes the highest rank; and his *Histoire de Charles XII.* is one of the classics of Europe. The *Lettres Philosophiques* opened his crusade against Christianity, which soon brought into play the whole armoury of his wit, vivacity, and sophistry, maligning, misrepresenting, and distorting, covering the most sacred truths with obloquy and ridicule, and the holiest precepts with derision. From this moment, a morbid irritability took possession of his mind, and,

though he affected a Brahminical composure, he was never at rest, but roamed up and down, like the evil spirit of the parable, seeking repose and finding none. At Berlin, at Geneva, at Ferney, he was the same morose being, and, wherever he went, his insatiable vanity clung to him like a garment, keeping him always in full dress. At length, in his last days, when more than fourscore years had bowed his delicate frame, he came to die at Paris. The caresses of the Court, the acclamations of the populace, the honour of a crown in a full theatre, while gratifying his inordinate self-love, could not blind him to his approaching end. 'You remind me,' he said to the Marchioness de Vilette, as she regaled him with a splendid banquet, 'of the Kings of Egypt, who, when they were at meat, had a death's head at the table.' The final scene was indeed not distant; and then came those death-agonies of his soul, which read such a terrible moral. Despairing cries broke continually from his lips; the Maréchal de Richelieu fled from his bedside, declaring the spectacle was too dreadful to witness; and his physician affirmed that the remorse of the dying infidel exceeded in horror the torments of Orestes.

The theologians of the French Reformation had preceded Voltaire. Bourdaloue, a Jesuit,

was more an orator than an author, confining his efforts to the pulpit, where, indeed, he displayed such power, that he was called *The King of Preachers and the Preacher of Kings.*

Bossuet and Fenelon were his contemporaries. Bossuet was remarkable for his profound knowledge of mankind, the elevation of his style, the force of his reasoning, and the sublimity of his thoughts. Protestants, Jansenists, Quietists, and Ultramontanes were equally assailed by his pen, while, at the same time, he set bounds to the spiritual authority of Popes and the temporal power of Kings. His *Exposition de la Doctrine Catholique,* his *L'Histoire des Variations des Eglises Protestantes,* and his *Méditations sur l'Evangile,* are the best known, as they are also his ablest works. Fenelon, canonized by *Telemachus,* was the great adversary of Bossuet in the struggle of the Quietists. His mild, gracious character has passed into a proverb, and is well symbolised by his French appellation, *Le Cygne de Cambrai.* The *Traité de l'Existence de Dieu,* a noble defence of religion, exhibits all the attractions of his graceful composition, the profusion of his thoughts, the fluency of his diction, and the majestic simplicity of his arguments. He survived Bossuet eleven years, dying in 1715, just as Voltaire was beginning his career.

In England, the celebrated Robert Boyle, by the foundation of endowed lectures, raised up a succession of able divines, who opposed the spread of infidelity with the artillery of the Protestant Church. Foremost among these pillars of religion stands Dr. Samuel Clarke, the author of *The Being and Attributes of God*, and *The Evidences of Natural and Revealed Religion*, both composed of sermons preached in the Boyle course, and afterwards more carefully digested. Dr. Clarke was the originator of the argument *à priori*, by which he educed the existence of the Deity prior to creation, as a demonstrable fact. His two works, embracing the whole subject, form a masterly exposition of natural theology. In the one, he demonstrates the existence and infinite perfections of God, as shown by self-evident propositions, more impressive than the deepest subtleties of metaphysics. In the other, he proved the truth of religion by the united testimony of science, philosophy, and nature, by the instincts of the human breast, establishing piety and virtue as the institutes of happiness, and thus making them, in their effect, witnesses to 'the beauty of holiness.'

Dr. Clarke's work had not long been published, when he received an anonymous letter, expressing, in a deferential manner, grave doubts

respecting some of his propositions. The writer handled the subject with such singular ability, that Dr. Clarke was induced to reply, forwarding his observations to the Post-office at Gloucester, from which the communication was dated. In this manner he exchanged three letters with his unknown correspondent, whose profound learning and great powers of argument excited his admiration, while, at the same time, they piqued his curiosity; and, after renewed inquiries, he at length traced the writer to a dissenting academy at Tewkesbury, where he was preparing for the Presbyterian ministry. Such was the *début* of the celebrated Bishop Butler, the greatest theological philosopher that ever lived.[13]

After a deliberate investigation, the young student quitted the Presbyterian tenets, and, proceeding to Oxford, took holy orders in the Established Church. His letters to Dr. Clarke had been annexed to the work which had called them forth; and, indeed, have ever since formed a part of it; hence his extraordinary talents were widely known and generally admired; yet, on leaving college, he was deported to an obscure rectory, where neither his talents nor his learning could be exercised. In this retirement he groaned under the burden of inaction

[13] Chalmers' 'Biography.'

and neglect, which is so bitter a trial to conscious genius. But such a light was not kindled to be placed under a bushel. One of his old schoolfellows, who knew his worth, had been appointed Chaplain to Queen Caroline; and, from the days of Joseph to our own, no passport to promotion could compare with a friend at Court. Secker mentioned the forgotten scholar to Her Majesty, who remarked to Archbishop Blackburne, that she had thought he was dead. 'Not dead, madam,' was the Prelate's reply, 'but buried.'[14] Butler was now called from the shades to be Minister of the Rolls Chapel. Here he preached those incomparable sermons, of which fifteen were given to the world; and, though selected without design, they seem to form a regular series, embracing the whole duty and nature of man, his mission and destiny.

In this precious volume, it is difficult to assign the pre-eminence to any one discourse, because each, in point of fact, blends insensibly with the others, appearing as an integral part of the subject. The first principles of our moral being are demonstrated with mathematical precision, and laid down with sublime emphasis. As we read, we are instructed in the noble attri-

[14] 'Memoirs of Bishop Butler.'

butes of our spiritual character, the elevation and independence of the soul, the susceptibilities and holy rights of conscience. Of these mighty things Butler was not only the expounder—he was their discoverer: and he deserves to be called the legislator of theology. Yet, as Galileo and Newton elicited from the mechanism of the heavens some truths of dominant import, laws of overruling magnitude, so Butler, in his masterly exposition, unfolds passages of relative superiority. Attention is more especially riveted by the first three sermons, which are devoted to an analysis of *Human Nature*. Adding to these the discourse on the *Love of our Neighbour* and the *Love of God*, a mirror is held up to man's heart and soul, displaying all their tendencies and characteristics; reflecting, unveiling, and illustrating, first showing us whereof we are made, and then conducting us to our Maker.

What the *Fifteen Sermons* did for humanity, Butler's next production, *The Analogy of Religion*, effected for Revelation. In the one he conjured up the phantom of our own spirit, our own image: in the other, he shadowed forth the Image of God. This masterpiece of thought and argument is the literary wreath of the Reformation. We are astonished, as it proceeds, at the profoundness of its investigations, the

subtlety of its inquiries, the breadth, vastness, and grasp of its reasoning. Christianity is shown to be true by the testimony of nature, of the small still voice in every breast, and by the ruling instincts of every conscience. Far from shunning difficulties, the great logician, confident of victory, himself raises them up, darts a prophetic glance in advance of science, and tracks the grand scheme of Creation through all its meanderings to the divine source of the Creator.

Butler's drawback is his diction. Attempts have been made to popularise his writings; but, judging from the results, the task would seem impracticable. Those mammoth words, which bear such weighty arguments, will not be shorn of their proportions. The law of gravity cannot be tied down by silk, or restrained to rounded periods. It pervades the universe, sustains planets, suns, and systems; and, while it binds atom to atom, chains heaven to earth. Such also is the aim of Butler, and he claims equal scope and latitude.

The mine explored by the prelate had previously been plumbed by Locke. Initiated in the arcana of nature by the writings of Des Cartes, this great philosopher was not more attracted by the mysteries of science than by those of religion; and, through a long and

useful life, his thoughts were ever fixed upon God, on regeneration and redemption. He approached the subject in the true spirit of a Christian, with meditation and prayer, in meekness, faith, and charity. His *Reasonableness of Christianity as delivered in the Scriptures* awakened a new spirit, teaching men that this glorious Gospel, which came from the Messiah in such breadth and fulness, was not to be narrowed by nice distinctions, and mangled by straw-splitting—was not, in fact, a law of quips and subtleties, but of mercy and healing, of universal application and access. His object was to unite all denominations of Protestants in one conformity. Such an end, indeed, could hardly be attained by human means, more particularly in an age essentially controversial and sectarian; but time has proved that the effort was not misdirected; for it is from hence we date the dawn of toleration. Few could then comprehend so lofty a doctrine, and Locke was branded as a Socinian, while he died exclaiming—'Oh! the depth of the riches of the goodness and knowledge of God.'

The first to apply metaphysical research to the Scriptures, Locke also threw a new light on metaphysics themselves, laying bare the springs and intricacies of thought in an *Essay on the Human*

Understanding. The precision of his style and unfailing flow of his diction lightened and relieved an occult subject; and, by his felicitous treatment, abstract philosophy was made familiar and attractive. There is no other instance of such a treatise acquiring a popular circulation. Sufficiently deep to attract the student, to interest the philosopher, to arouse and engage the powers of thought, it addresses itself equally to the cursory reader, enchaining attention by its graphic delineation of the faculties, and portraiture of the naked mind. Nor is the effect impaired by the character of the propositions, some of which are open to dispute, while others are quite untenable. Taking it, indeed, with all its defects, the *Essay on the Human Understanding* is a noble example of philosophical writing, and, translated into various languages, it may be said to have exercised a marked influence on the intellectual progress of mankind.

The fabric of Christian testimony was augmented by Paley, on the stratum of Clarke. Paley came in at the eleventh hour, but did the work of a whole day—by his ingenuity, grasp, and precision, by commentary and explanation, effecting, in a certain measure, for revealed religion what Locke accomplished for abstract philosophy. His *Evidences* are written for ordi-

nary thinkers, for common people. They are also an admirable lesson for the student and the scholar. But they simplify without lightening, without interesting. The subject, so susceptible of illumination, is enveloped in an opaque style, and we are still reading a sermon. Brought down to a moderate capacity, made plain and clear, the knowledge it imparts must nevertheless be sought for its own sake, not from an interest in the treatment. Paley displays a lighter touch in his *Natural Theology*, while the reasoning, though wearing a more attractive guise, is not less profound. He was not versed in practical science, in mechanics, or high mathematics. His illustrations, therefore, are either familiar or borrowed, wanting in novelty, and sometimes in fact. Yet, to ordinary minds, they speak with great force, and his celebrated parallel of the mechanism of a watch with that of nature, has become a proverb. On the other hand, to those who look for testimony and doctrine—for a broad and masterly disquisition, the *Evidences* are a perfect manual, presenting, in a compendious form, such a mass of information as no other work can supply.

Paley has the advantage of being followed by an expositor who possesses, in an eminent degree, all the qualifications in which he was deficient,

while surpassing him in analytical power and force of demonstration. Lord Brougham grasps the subject with the tenacity of a philosopher, and the erudition of a *savant;* but, at the same time, preserves the faith of a Christian. The Demosthenes of the forum, one of the masters of science, a naturalist, and a jurist, endowed with a genius as versatile as his accomplishments, and as robust as versatile, he was especially fitted to review and complete this profound investigation. In his *Dissertations on Subjects of Science connected with Natural Theology*, and his *Discourse of Natural Theology, showing the Nature of the Evidence and the Advantages of the Study*, he has produced a synopsis of the whole case, stating from the seat of judgment the pleas on both sides, carefully summing up the evidence, and indicating the verdict. Discarding all narrow prejudices and rhetorical stratagems, he traces the presence, the attributes, and the perfections of the Deity in every lineament of nature—the same Creative Hand in worlds destroyed as in worlds existing—in the cemeteries of the Paris Basin as on the present surface of the earth. The habits of insects, the instincts of animals, the moral and physical structure of man, phenomena of good and evil, sleep, dreams, death, resurrection, all the laws of

the universe and of human reason, as expounded by Newton and Bacon and Locke, are brought within the scope of these volumes. Beautiful examples of the delicate mechanism of the Creator illustrate the arguments, and a lucid style impresses them on the humblest mind.

While such sources of illumination are open to mankind—while learning and religious truth are within reach of the lowest of the people—society, in the nineteenth century, and in the midst of the highest civilization, is still susceptible of the grossest perversions. We have adverted to the prevalence among the vulgar of a belief in witchcraft, giving the most ignorant of men the power to 'rule planets,' and exorcise the possessed, and this delusion is less strange than the spiritualism and clairvoyance which have made such an impression on the educated classes, surviving every exposure. But the most extraordinary phenomenon of the age is the revival, in such countries as England and the United States, of the foulest doctrines of Munzer, in the notorious creed of Mormonism. The rapid spread of this vile heresy casts a stigma on two cardinal nations, on the human mind, and the human heart. It is the French Revolution of Christianity, throwing down every social institute, outraging every moral relation, sapping the

foundations of virtue, and making religion the minister of evil. It raises its altar on the household hearth; and, as Satan quotes Scripture, preaches words of grace and regeneration,

> 'Whilst rank Corruption, mining all within,
> Infects unseen.'

VI.

MODERN LITERATURE.

GREAT as was the revolution which the Reformation accomplished in theology, and the impetus it communicated to science, the effect it exercised on literature was no less signal. The spread of learning, indeed, was also immensely influenced by other causes, and more especially by the invention of printing, which, as we have seen, powerfully aided the Reformation itself. But though the printer's art necessarily shed abroad a diffused light, it was not so much the multiplication of books, as their altered character, that informed and elevated mankind. Popular literature was no longer confined to grave homilies and the legends of Saints: in a former chapter, we have shown that even under the domination of the Roman See, and by its special encouragement, the *belles lettres* had begun to revive; and the Reformation gave to both parties a freedom and independence of thought, which materially accelerated their development.

For a time, the laureate's crown was tena-

ciously retained by Italy, where the old faith admitted no rival; and the fame of Petrarch and Dante, who had first awakened the Tuscan lyre, was sustained by a royal succession of poets. The courts of Florence and Ferrara were the favoured haunts of these sons of Apollo. In the palace of the Medicis, and particularly at the table of the magnificent Lorenzo, they found a gracious welcome; and literary or artistic merit was a sure passport to Lorenzo's friendship. The race of D'Este were more liberal of words than acts, but, by lavish promises, they attracted to their court some of the brightest luminaries of Italy, and hence became associated with their works. But for this, their insignificance would have veiled their meanness, and posterity might never have heard of their crimes.*

Lorenzo de Medici was himself a votary of the Muses, and his train included a crowd of authors, conspicuous among whom were Pulci and Politian. Both these poets, though eminent in their day, have now passed into comparative oblivion, and, perhaps, owed much of their original popularity to royal favour. Their productions are glaring examples of the discursiveness and prolixity, which are the prominent characteristics of the whole Italian school. With

these is blended a broad love of the marvellous, which is equally a national trait, and disfigures alike the *protégés* of Florence and Ferrara; being not more the fault of Pulci and Politian than of Boiardo, Berni, and even Ariosto. The mellifluous texture of the soft Italian language is so favourable to metrical composition, and cloudless skies and romantic scenery are so inspiring, that the interminable length of the *Morgante Maggiore* of Pulci, and the *Orlando Innamorato* of Boiardo, excites no surprise, and, perhaps, we may ascribe to the date and subject of their respective epics, as much as to the credulity of the age, that partiality for dwarfs and giants and monsters, for elves and demons, which, in common with other Italian bards, they borrowed from Norman and Provençal *fabliaux*. Arab and Greek literature deepened the impression, giving it an Oriental colouring, and here we trace the source of those more delicate creations which enrich the verse of Ariosto. The *Morgante* and *Orlando Innamorato* are both laid in the remote age of Charlemagne. The first mainly refers to the defeat of the Frank monarch and his famous paladins at Roncesvalles, in the passes of the Pyrenees, but branches into innumerable digressions and episodes, which have no relation to the subject. The *Orlando*

Innamorato, written in an infant tongue, was long clothed in an obsolete garb, like the poems of Chaucer; but from this seclusion it was drawn forth by Berni, who, by modernising and remodelling the original, produced it in a new and attractive form. But, to the world at large it is chiefly known from association with the immortal epic of Ariosto, which, in its designation, revives Boiardo's title, and promises the sequel of his unfinished story.

Ariosto was styled by Tasso the 'Homer of Ferrara;' but if we except his fluency, the flow and harmony of his verse, and the episodical structure of his narrative, he possesses little in common with the Hellenic bard, and assuredly cannot claim so flattering an appellation. With all its imperfections, however, the *Orlando Furioso* is a great work, worthy to take a front rank in the world's literature. The sweetness of the rhythm, the infinite variety of the characters, and the diversity and rapid succession of the incidents at once charm and enchain, carrying the mind through its innumerable cantos without abatement of the deep interest with which it set out. But this end is achieved at the cost of probability and unity. The Muse appears as a Syren, her flowing tresses gemmed with thought, her seductive song luring us on and on,

ever over fresh ground and through new scenes, till we are lost in the maze. Tragedy and comedy, the grave and burlesque, the probable and impossible, are intermixed to a degree that, if we pause to reflect, destroys all poetic illusion; but, in spite of sound objections, we still lend our ear to the voice of the *improvisatore*, than whom none ever charmed more wisely. Often the poem rises to a Dantesque grandeur, redeeming its epic character, while other passages breathe a soft melody, replete with sensibility and tenderness. It is a high testimony to the poetic temperament of the Italian people that the stanzas of Ariosto and Tasso, elsewhere confined to the closet, are in Italy familiar in the humblest habitations, being carolled indiscriminately by the boatmen of Venice and the rugged Lazzaroni of Naples.

While engaged on the *Orlando*, Ariosto held a humble post at the Ferrara court, but the salary was grudgingly paid; and though subsequently employed in a higher capacity, he owed promotion to his administrative, rather than his literary talents. The Cardinal Hypolito D'Este, whom he selected for his patron, accepted the dedication of *Orlando* with a sneer; and while Italy rang with his fame, Ariosto received from the ducal court only promises and neglect. Far

differently was he estimated by the great body of his countrymen; and it is related that, on one occasion, falling into the hands of robbers, he was instantly liberated, and all his property restored, on the discovery of his name—a compliment reflecting not more honour on the poet than on the wild men from whom it emanated.

But the chaplet of Tuscan poesy must be awarded to Tasso, whose *Gerusalemme Liberata* exhibits the highest qualities of the epic. Its theme is the Crusades, which at that time were, in consequence of the successes of the Turks, being once more agitated; but were so incompatible with the existing state of Christendom, that, notwithstanding the most zealous efforts, the movement fell to the ground. Tasso depicts the great contest with a power and vividness truly sublime. His Muse shadows forth the noblest characteristics of Milton, and, for the first time, shows poetry bursting from materialism, and conscious of its spirituality. Ariosto had evinced a perception of the beautiful sensibilities of woman; but, in the *Gerusalemme*, Tasso has presented them in their fulness and perfection. The human heart and the human mind are delineated by a master hand, but with a touch neither coarse nor voluptuous—with delicate, imperceptible shadings, like the tints of a photo-

graph. Too often, indeed, the verse is encumbered with the empty conceits, which so disfigure the Italian poets, and which Boileau has harshly stigmatised as 'the tinsel of Tasso;' but this is a national, rather than a personal defect, and seems to rise from the natural luxuriance of the language. On the other hand, we must remember that Tasso shuns the greater faults of his countrymen: his noble poem is undefiled by licentiousness; and, instead of sneering at what is sacred and venerable, he invariably breathes a devout spirit, impressing the reader with his own religious enthusiasm.

The misfortunes of Tasso are a thrice-told tale. His warm, excitable temper, his duel at Ferrara in the precincts of the ducal palace, his indiscreet passion for the princess Leonora d'Este, his arrest, imprisonment, and alleged madness, still, after an interval of centuries, give his sad story a thrilling interest. Calamity continued to dog his steps, even after indignant Italy had knocked off his fetters; and he expired suddenly at a monastery, a few hours before he was to receive, in the forum of Rome, the laureate crown of his country.[1] Ariosto may have escaped equal misery by his reserve; for he, too, alludes to a high-born mistress, but without revealing her

[1] Milman's 'Life of Tasso.'

name; and on his inkstand was a figure of Cupid, with a finger on its lips, indicating the necessity of silence.

The *Aminta* of Tasso is a masterpiece of pastoral poetry, and called into existence the *Pastor Fido* of Guarini, which almost equals its model. Italy has not been fruitful in dramatic composition. Its soft, mellifluous language, a melody of itself, reaches the heart through the ear rather than the understanding—through the sensibilities rather than the passions. Metastasio caught its spirit in his operas, the form of drama best suited to its structure, and most consonant with its genius. Alfieri has not succeeded in applying it to tragedy. His dramas, though rich in character, want the charm of a masculine diction, and the impress of vitality. Monti is stronger in invention, but he has not the grasp and Byronic grandeur of his master.

The mediæval authors of Italy exercised a great influence on Europe; and their ascendancy may especially be traced in English literature, which adopted many of their creations. Chaucer, the father of English poetry, has borrowed freely from Boccaccio; and we discover the Italian element in many of his successors, including Spenser, Shakspeare, Massinger, and Milton. But it would be beyond the scope of this work

to traverse the vast circle of modern letters: we can but glance at those magnates who, occupying the front rank, stand forth as the lights of the world, the fathers of its literature, and thus form the motive power of human progress. In this lustrous roll there is one paramount name, which has become a household word, and all acknowledge the supremacy of William Shakspeare.

Not three centuries have passed since great Will strutted his brief hour on the stage of the 'Globe,' the mimic world of Blackfriars, yet the authenticated incidents of his career might be told in three lines. In the days of Queen Bess, there was no one to chronicle the deeds of England's greatest son, though we would now give all we know of the Queen herself, and of her servile court to boot, for a faithful picture of his life. How precious would be a record of his conversations, his chance inspirations, with which, in grave moments, he may have stirred the souls of thinking men, or, in his convivial moods, set the table in a roar!—for a fellow of infinite jest was Will Shakspeare, and, judging him by his muse, there were more things in his discourse than are dreamt of in our philosophy. But the world had not yet produced a Boswell, and it has lost the sayings of this oracle of nature.

Renowned men have often sprung from the dust, and there was nothing to dazzle in the pedigree of Shakspeare, who, in his boyish days, may have carried out a butcher's tray from his father's shop. Some learning he is supposed to have obtained at the Stratford school, but it could only have been rudimentary, for we have evidence in his works that he had but confused notions of geography and chronology. His vast information was conquered, not acquired—caught up and utilised, without elimination of the particles, just as various ores are absorbed by a crucible, and poured out in fusion. The bard of Avon could not derive his lore from the slow current of schools, but took it up at a swoop, as the sun vaporizes the ocean. This is a faculty given to few, but it was dominant in Shakspeare. He learnt by sight, by intuition, grasping facts as he would a character, a lesson in a book or a heart with the same facility. But his favourite volume was Nature, and deeply was he read in her deepest texts. It was this, his mastery of the instincts and mysteries of being, that made him the profoundest of scholars, poet of poets, king of wits and men.

We have said that there was an Italian element in Shakspeare, but in him it was only

one of manifold tints, drawn from every quarter, Some of his plots, indeed, he took from Boccaccio: the skeletons of others, forming the embryo of the English drama, he probably found in the green-room, among the stock and properties of the theatre. But wherever obtained, they were themselves nothing. Shakspeare snatched them from oblivion, and out of their fragments raised a new creation, as Cuvier and Owen have taken a fossil bone, and formed a mastodon or mammoth. But Shakspeare was not content with restoring the bodily structure: he imparted the breath of life, and, in a manner, recalled the soul. By his words of glamour, he brought back to the world the dead characters of history — not as phantoms, but as living beings, made them play again their heroic parts, and exhibit all the phases of human passion. He took the legends of Greece and Rome, the traditions of England, the love-tales of Italy, known only to the learned few, and gave them to mankind, but in a form quite new, addressing every eye, and suiting every capacity. Good muscular Saxon invests his characters with a mantle of flesh and blood. They act, think, and speak, in all their diversities of situation, like men and women. King or peer, priest or peasant, mother, wife, or love-sick maid, they are, one and all, creatures like

ourselves; and, as they move before us, we feel they are playing no hollow tragedy, but actually sharing our own vicissitudes in the great drama of life.

Here lies the secret of Shakspeare's influence over human sympathy: it is this that has made him, in a social sense, the greatest teacher and the greatest exemplar of his species. No Muse but his has familiarised the humblest minds with the highest sentiments of heroism, the gentlest instincts of sensibility, the deepest problems of metaphysics. There is a Scriptural plainness in these great lessons of human practice, illustrated by living actors, examples of good, and warnings against evil. So great was his forecast, such was his prescience of human nature and human progress, that there is scarcely a phase of character, an event of history, or even a discovery of science, to which some graphic passage of his verse may not be applied; and the whole forms a cyclopædia of practical philosophy. We are asked by ardent admirers to excuse some scenes and expressions as the faults of the age; but, in truth, this is unjust to Shakspeare, who professed to show vice its own features, as well as virtue her own image. The one he depicts as hideous, loathsome, and abominable, in all its deformity, and all its

vileness: the other in its beauty and purity, heaven-born, humanizing and melting us, storing our hearts with noble impulses, and our breasts with the milk of kindness. Something, indeed, was caught from prevailing manners; for he had to exhibit to the 'very age and body of the time their form and pressure,' speaking to every class in a guise and a language patent to each, while, on the other hand, he preserved to latest posterity this reflex of his generation.

Posterity tries to pierce the veil which envelopes the social relations and personal character of this type of the human mind. We can imagine his youthful love of adventure—his stalking for deer or fairies in moonlight glades: we can even fancy him in the custody of Dogberry, receiving sentence from Justice Shallow. But it is more difficult to realise his London fortunes—to conceive him holding horses at the playhouse door, or prompting a company of strollers as they split the ears of the groundlings. If these were his beginnings, what a moral do they point! In presence of such a spectacle, how flat, stale, and unprofitable seem the empty distinctions of the world! But we need not go to tradition for the social position of Shakspeare. Let us take him as he is best known, in his prosperity, as the successful lessee

at Blackfriars, or the sober burgher at Stratford. There is still an equal disparity between the situation and the man.

Of his personal appearance we know little; but that little, once acquired, stands in the gallery of the mind among our family portraits; and the broad, lofty forehead, which rises up like a temple, enshrining his divine gifts, or the neatly-trimmed moustache and beard, are never forgotten. The great poet died in the prime of life, at an age when the human frame attains its perfection, and when the intellect, with all its varied powers, shares the vigour of the body. Hence we may picture him as such a master-spirit ought to appear, in the maturity of his faculties, without decay or blemish, in mind and person unbroken. Shakspeare was never subjected to the ordeal of the Seven Ages.

It is difficult to think that this rare spirit, struggling for his daily bread, was perhaps despised as a poor player. As we stand speechless before his tomb, reading his solemn announcement of the nothingness of life, our souls drawn to him by a mysterious love and reverence, we can hardly conceive that he has had to off-cap to a lord, or even watch for the smile of a capricious Queen. Yet so it was; and it may console the humblest to reflect, when the

heel of arrogance seems ascendant, that the 'proud man's contumely,' and the 'spurns that patient merit of the unworthy takes,' were familiar to Shakspeare. Nor can the haughtiest forget the mutability of fortune when, in the same immortal verse, he reads of the noble dust of Alexander stopping a bunghole.

The Italian muse, of which we hear lispings in the plots of Shakspeare, lent some notes to Milton. Yet our mighty bard is essentially original. Obviously, he had read the masterpieces of the Tuscan poets, but it was impossible for him to be a copyist or an imitator. His genius was too richly creative. The greatest of those giants, moreover, was inferior to him in grasp, force, and stature; nor was their gay attire—what Boileau has called their *tinsel*—suited to his character. If he had listened to their song, he drew nothing from its melody, so mellifluous, yet withal fatiguing in its music—nothing from its conceptions, and nothing from its structure. Italy was, in fact, but a page in the circle of his reading, which embraced the whole literature of Europe, the classic lore of antiquity, and the rising intelligence of his own time. Thus he was unlike Shakspeare, while, on the other hand, they arrived by different means at the same result. Both seem to have

swept the round of human knowledge, but with the bard of Avon it was by a glance, on wings, by his own intuitive perceptions, while Milton, with faculties all but equal, took the beaten track of study. Hence there is a deeper impression of culture in his verse—as if, before trusting his own powers, he had gauged the intellect, and measured the strength of all who went before. Shakspeare was like David, striking his lyre untaught, overcoming the giant Fame with no weapon but his sling, his apt grasp and application: Milton deliberately armed himself with the sword of Gideon. His great epic is like the Mississippi, fed by a thousand channels, which, however, contribute their waters, without imparting their identity, becoming lost in the majestic stream. *Paradise Lost* is pre-eminently unique, an epic of the highest order, the *Iliad* of man's fall. Its harmony and sublimity, its spirituality, are all its own; and, for the first time, poetry drops its mantle of clay in this immortal production. Milton is the poet of MIND. To him we owe the spiritualization of poetry—its release, by a happy inspiration, from the thraldom of materialism, a work which Tasso, indeed, had indicated, but could not accomplish. Therein consists Milton's superiority over the Italian and the antique poets, and his right to be compared

in creative power with Homer, who alone stands on the same pedestal. The picture of Hell in *Paradise Lost* is not, like that of Dante, another version of the infernal regions: neither is its chief a cast of Pluto. To Milton's eye, Satan is a spirit, a terrible impersonation of masterless passions, grand, colossal, and majestic—divinity in ruins. It is not his vast form,

'—— floating many a rood'

on waves of fire, but his awful mind — that abyss of fallen greatness, of riven attributes and powers, all the elements of feeling, perception, and emotion, thought and desire, blackened and blasted, forming a bottomless pit of wickedness and evil, yet, withal, still showing in that deep profound some sparks of lurid goodness, sparks that yield

'No light, but rather darkness visible'—

it is this that impresses our imagination, and proclaims Milton's ascendancy. In contrast with the Father of Evil, the desolated Son of Morning, what a picture is presented, in the happy glades of Eden, of the original innocence of humanity! Adam is the perfection of manly excellence; Eve of womanly beauty, purity, tenderness, and truth. They live in an atmosphere of love and peace and joy, which is not only

spread over Paradise, mantling all around, but dwells in their breasts, and envelops their souls. But, while thus endowed, they possess all the seeds of mortal frailty, exhibit the lineaments of the human character, and are described as

> 'Not spirits, yet to heavenly spirits bright
> Little inferior.'

As Milton compares with Homer in his faculties, so, by a strange coincidence, he presents points of resemblance in his fortune. Like the great bard of Greece, he was blind: like him, too, he earned his daily bread by the instruction of the young. The two epic poets were both schoolmasters. The Muse seems to have been always a poor provider; and the five pounds for which Milton sold *Paradise Lost*, would not, in the present day, have secured his lodging in Grub-street. Cromwell had discerned his merit, admitted him to his friendship, and appointed him his Latin Secretary; and, perhaps, it is something in favour of the thoughtless Charles, that, if he did not minister to his necessities, he permitted England's greatest poet to die unmolested. It might, indeed, be natural in the restored King to neglect the republican Milton; but we may feel surprise that even such a monarch could suffer Butler, whose loyal satire he always carried in his pocket, to die of starvation!

Milton affirmed that his best work was *Paradise Regained*, evincing a marked preference for his later poem, just as a fond parent loves the child of his age. Comparatively speaking, however, *Paradise Regained* is an inferior performance, following its precursor like an *Odyssey*; and while the one is universally admired, the other is seldom read. His muse was grave, but not sombre; its calm, thoughtful character is best expressed in *Il Penseroso*, and *L'Allegro* exhibits its lightest vein. As a dramatist, his powers were of a secondary order; but both *Comus* and *Samson Agonistes* are beautiful compositions, and hold a permanent place in our national drama.

The prose of English literature was of slower growth than its poetry. Though there was a certain force of diction, a Chinese quaintness, in our early chroniclers, English prose could scarcely be said to exist prior to Sir Thomas More. Our antique writers were like the pictures of the old masters, not wanting in character, but in elegance, in lightness of touch: Sir Thomas More traced out the first lines of expression and style. The Elizabethan writers, so varied in their attainments, so rich in gifts, added embellishment, but neither precision nor grace. The composition of the era was like its architec-

ture, heavy, patched, and grotesque. Clarendon introduced a mass of verbiage, which at first looks imposing, but, as we proceed, grows formal and prolix. Under the Restoration, the Court authors on one side, and the Puritans on the other, clothed our literature in French frippery or Hebrew phylacteries, so that it almost lost a specific character; but, amidst this chaos, L'Estrange and De Foe were founding a new diction. But it is from the Revolution, from the establishment of civil and religious liberty, that we must date the gradual development of English prose. The purity of Steele, the severe elegance of Addison, the patrician elevation of Bolingbroke, equally forwarded the work, opening up the veins of expressive Saxon which so threaded our poetry, and of which the Puritan writers had found a rich store in the Scriptures. Nor was the French element wholly discarded, though in the smart epigrams and quaint affectation of Horace Walpole it assumed a national garb. But all this was only material for the vast fabric of the English language; the giant who was to seize, with Cyclopean power, the stones and chiselled blocks thus lavishly furnished, place them in arch and column, and knit piece to piece, came later on the stage; and the *Dictionary* of Samuel Johnson did not appear till 1755.

The same year and day—perhaps the same hour—which deprived the world of Shakspeare, putting out the light of ages, closed also the eyes of Cervantes. Spanish literature had a different origin from the English; but shows, in its first developments, some affinity with the Scotch, rising, in fact, from the same source of border warfare. For a long period the Spaniards were engaged in reconquering their territory from the Moors, and hence lived continually in that atmosphere of enterprise and danger, which is so creative of poetry. The deepest impulses of our nature, and some of its fiercest, were on both sides kept alive by the combined influences of military ardour, patriotism, fanaticism, and pitiless resentment. But the Christian knight gradually learnt to temper his vengeance with moderation and magnanimity, which, in conjunction with the busy strife around, the never-ending combats, forays, and secret expeditions, gave a peculiarly heroic and picturesque cast to Spanish chivalry. Through the ballads which form the only history of that romantic era, we are always met by the great figure of the Cid, standing forward as the type of Christian valour, heroism, and knighthood; and thus a border warrior gives the first inspiration to his country's literature. Yet so little is

known of the facts, that the world-renowned Cid is sometimes pronounced a fabulous character; and the Spanish *Iliad*, like that of Greece, may be but a collection of odes, emanating from different bards, and only brought together by a later minstrel, who had little real connection with their authorship. However this may be, it is certain that the chivalrous spirit kindled by the Moorish struggle long survived the causes from which it had sprung; but instead of withdrawing from view, it became more prominent, increased its activity, and exaggerated its pretensions, in proportion as the field for its legitimate exercise became more limited. Thus it had leavened the manners and character of the whole population to a strange and ridiculous degree, and was so kernelled in the national literature, that scarcely any work was produced that did not treat, in the wildest strain of fiction, of the knightly deeds of Christian champions, waging eternal war with giants, necromancers, and magicians, and on every side defending the weak and righting the oppressed.

Such was the literary aliment of Spain when Cervantes rose as the minister and avenger of discarded nature. His efforts to create a healthier public taste were unsuccessful; and discouraged by the unfavourable reception of

his novel of *La Galatea*, and of some twenty dramas, he threw down his pen and endeavoured to obtain a livelihood by other employments. At this period he must have been approaching his fortieth year. The flower of his life had been devoted to the military profession, in the service of the Pope; and he was present in the celebrated battle of Lepanto, in the operations in the Morea, and in the various campaigns of Marco Antonio Colonna. In 1575, while on his passage from Naples to Spain, he fell into the hands of the Moors, and passed three years in rigorous captivity at Algiers. Thus he had taken his degrees in a stern school: his mind was stored with a fund of incident, and a profound knowledge of nature—the result of extensive travel, observation, suffering, and romantic adventure; and, after a life of hardship and disappointment, he was prepared for the severe trials of a literary career.

The Peninsula shares with England the dishonour of slighting and neglecting literary men. Camoens, who gave a name to the literature of Portugal, subsisted on the precarious alms obtained for him in the streets by a slave, and died in an hospital. Cervantes had a life-long struggle for bread, and appears to have written *Don Quixote* in a prison. 'What could be ex-

pected,' he exclaims, 'from a mind sterile and uncultivated like mine, but a dry, meagre, fantastical thing, full of strange conceits, and that might well be engendered in a prison—the dreadful abode of care, where nothing is heard but sounds of wretchedness?'[2] Even when at liberty, indeed, the poor novelist had a wretched home, living in the constant presence of penury, misery, and want. To add to his mortification, a contemporary author, whose showy talent was far inferior to his own, maintained in the same street a sumptuous palace, the scene of endless festivity and rejoicing. Dramatic performances were now as much the rage in Spain as in England; and the stage, which had denied a crust to Cervantes, opened a gold mine to Lope de Vega. This extraordinary man was described by Cervantes himself as 'a miracle of nature.' The strength of his pen, however, was not in its creative power, but in its prodigous fruitfulness; and of all the countless dramas of which he was the author, not one is now ever read. But this is not strange; for of the authors of our own day, who live in the smiles of the great, and who, in their transient success, dream not of 'the dreadful abodes of care' tenanted by writers less fortunate, but perhaps not less de-

[2] Preface to 'Don Quixote.'

serving — surely but few will be known after three centuries!

But who would suppose that Cervantes was surrounded by any but pleasant fancies when he conceived, designed, and wrote *Don Quixote?* If ever a work suggested a mind at ease, an unruffled temper, a joyous spirit, it is that brilliant and masterly production. Replete with invention and observation, sparkling with humour and wit, catching up with a touch the manners and social features of the age, and exhibiting a mine of human character, the story of Don Quixote ranks with the happiest creations of literature. It belongs, indeed, not to one country or language, but to all mankind; and few are they who are not familiar with the woeful Knight of La Mancha and the trusty Sancho Panza. Don Quixote is a masterpiece of artistic cunning, blending the most strongly-marked traits with exquisite touches of feeling, under the shadow of a strong delusion. In him, as in Hamlet, madness shows method, consistency, and by its *animus*, by its righteous aim, by the spell of its lucid glimpses, ranges us in its interest, and almost makes us participate its hallucination. By such means does the author hold us enchained through a narrative of incidents that, of themselves, are simply

absurd, extravagant, and incredible, but which, under this influence, are made by his art to appear natural and truthful. Through all runs a vein of delicate irony, of sly humour, of shrewd, practical wisdom, which addresses every reader, yet, at the same time, never interrupts the thread, and never mars the texture of the fantastic story.

Sancho Panza is a living character, of the true human type, such as could be fashioned only by the hand of nature: a strange compound of credulity, knavery, and drollery, of rustic simplicity, and Falstaffian cunning. Never had Knight-errant such an errant Squire, yet never were Knight and Squire so fairly matched; and the Governor of Barataria, whether administering justice with the sagacity of Solomon, or following up the arguments of his master in the renowned braying adventure, is still always immaculate.

Don Quixote achieved a wide popularity as soon as it was published; but its ill-starred author reaped no benefit from its success, having previously sold the copyright for a few reals. The fame it acquired induced one of those cormorants who fasten on other men's ideas, as drones on honey, to publish what was described as a *Continuation of Don Quixote*, although, as

Cervantes had recorded the Knight's death, the story did not admit of a sequel. But this audacious piracy called up and resuscitated the real sorcerer; and, after a long interval, Cervantes produced the second part of the matchless comedy, which is only surpassed by the first. The work became a proverb for its irony and wit; and one day, Philip the Third observing from the balcony of his palace a student on the bank of the river, indulging in frantic laughter over a book, cried out, 'That man must either be mad or be reading *Don Quixote*.' Inquiry was made, and the King's guess at the volume proved to be correct.[3] Yet Cervantes was permitted to languish in poverty, and, in his last moments, was only saved from starvation by the alms of the Count of Lemos and the Archbishop of Toledo.

The border warfare which gave the first impulse to Scottish literature had different incitements from that of Spain. The latter was a sort of Crusade, sustained by religious, as much as by patriotic ardour. The wars of the Scottish border were, on the other hand, actuated by national animosity, by a fierce predilection for war, and by lust of plunder. Northern minstrelsy introduces us to the feudal chief, fired by

[3] Porreno's 'Life of Philip III.'

some motive of passion, ambition, or rapacity, mustering by stealth his grim warriors, and setting forth on a foray, surprising and ravaging a peaceful country, and leaving behind him a track of ruin. Nor is it only across the border that he thus carries murder and rapine. The famous English ballad of *Chevy Chace* depicts the hereditary combats of the Douglas and Percy; but what were these to the intestine wars, the sanguinary clan-fights, the predatory attack of chief on chief, and faction on faction, which are celebrated in other lays. The early lyrics of Scotland were literally 'notes of fire,' the living poesy of a savage, warlike, and untameable people. Often the imagery was bold and striking; and if superstition imparted a tincture of gloom, it was, in its varied shades, not unaccompanied by picturesque effects. The Highland ballads reflected the mist, the phantasma, the weird tales of the dells and mountains; but they were impressed also, in some degree, with a sense of their grandeur and sublimity. The captive James, from his regal prison of Windsor, first introduced the tender accents of love, the plaintive melancholy, and the pure, deep patriotism, which afterwards so strongly characterised Scottish poetry. Even the border minstrelsy gradually caught a more

chivalrous spirit, revealed the inspiration of nobler sentiments, and acquired the charm of pathos. But political discords kept alive a national animosity, even when Scotland was united to the English crown; and the Jacobite songs breathe all the sanguinary hate of the old border marches. It was from this very leaven, however—from this rooted feeling of nationality—that the people derived their poetic temperament; for ballads and songs became prized as the memorials of past independence, were committed to memory as cherished traditions, and passing from mouth to mouth and from generation to generation—recited to the child by its mother, and to grown men by the village seer—they familiarised every mind with melody and romance.

Such was the school that gave birth to Burns, the Orpheus of Scottish song. He himself tells us, 'I owed much to an old woman who resided in the family. She had, I suppose, the largest collection in the country of tales and songs.'[4] But, in a scholastic sense, Burns was not, as is generally supposed, uneducated. Scotland was much in advance of England in her educational organization, and low-born indeed was the 'laddie' who did not receive as much instruction

[4] 'Autobiographical Letter to Dr. Moore.'

as ordinarily fell to the lot of the English middle class thirty years ago. Burns continued his studies, and even attended school, when he was embarked in the occupations of life, and acquired a knowledge of French, not to mention the abstruser attainments of geometry and trigonometry.[5] His reading was not extensive, but it was quite sufficient to illuminate his mind, and, by acquainting him with English classics, gave expansion to his ideas.[6] But, in truth, he had in his breast a spiritual intelligence, which was perfectly independent of such nurture. The elegant diction of Addison, the majestic strains of Milton, the pathos, the random flights of Sterne, he could admire and applaud, but did not imitate. His thoughts found utterance in the simple, unvarnished dialect of the 'country-side,' the pure Lowland Scotch, to which a patriotic race, partly in fond jest, partly in filial pride, have given the appellation of *Doric*. This Ayrshire ploughboy sang in the accents of home, and unconsciously addressed mankind: he aspired to be the poet of a village and won the garland of immortality. Nature dispenses her bounty with an eccentric hand, not by rule, not with reference to social position, and, consequently, with the more unkindness, in proportion as she

[5] 'Autobiographical Letter to Dr. Moore.' [6] Ibid.

is most prodigal. To Robert Burns she gave the cruel gift of genius—cruel, that is, not as a natural endowment, but in connexion with his situation in life, through the operation of caste, prejudice, and false social distinctions. A handsome person, a generous disposition, a too susceptible and too yielding heart, were, in his case, only additional disadvantages; for by enlarging his opportunities, by making him an attractive companion and a fascinating lover, they exposed him to the very temptations he had the least power to resist. A constitutional melancholy drove him to seek society; society led him to intemperance; and as if to complete the infelicity of his fortune—as if to debar him from all chance of amendment—his country recognised his merit by making him an exciseman!

Let us throw a veil over the frailties of a man who, at the early age of thirty-five, closed his life-long struggle with poverty and misfortune in the deepest misery. Poor Burns had his faults; but amidst them all, under his greatest occultation, he retains our sympathy by the generosity, the integrity, and the independence of his character. The present generation can pardon the crime of his humble birth, though it gave mortal offence to Sir Walter Scott, particularly as Burns, from his low tastes and vulgar habits, could not be

brought to 'see anything so *rational* in the practice of duelling as to adopt or to affect the sentiments of the *higher ranks* on that subject."[7] This is certainly a grave blemish, but—

'A man's a man for a' that—'

and in our own day, even the bleak crags of Parnassus may be preferred to the dock of the Old Bailey.

Burns composed his immortal songs literally at the plough's tail. As he followed the furrowing blade in the field, he whistled not, but he sang—not indeed with a voice, with no audible carol, but in the deep recesses of his mind, with the soft, sweet, melting harmonies of his soul. Often weeks elapsed before the treasured effusion was committed to paper, and thus preserved for posterity. At sixteen, he could have held a plough-match with Ulysses; and then it was that, in the golden time of harvest, the charms of a simple Scottish lass struck the rock of his breast with magic power, bringing out the gushing stream of song—sweeping his brawny hand over the Scottish harp with such soft, such exquisite effect. From this moment the Northern Cimon yielded himself to the Muses; and poured forth those sweet love-songs, those tender ballads, those

[7] 'Quarterly Review.'

strains of sensibility and pathos, which awake an echo in every heart. Of his other pieces, the greater number enjoy a household fame; piety and taste equally applaud the *Cotter's Saturday Night*, and the counsel given in his *Epistle to a Young Friend*—counsel, alas! he knew not how to practise—might have emanated from Shakspeare.

Sir Walter Scott drew his inspiration from the same fount as Burns. The man of ancient lineage, versed in the lore of the High School, familiar with history and archæology, and stored with quaint and various reading, fell back on the aliment of the ploughboy. We hear of him rambling among the peasantry, picking up, in cot or cabin, snatches of olden song, legends and ballads, and carefully noting whatever might throw light on their origin or point their moral. He had been directed to this rich field by Percy's *Reliques of English Poetry*, which developed in his mind that passion for the antique, that romantic admiration of the age of chivalry, which he indulged to a Quixotic degree. Hogg sent him the ballad of *Old Maitland*, representing it as a relic of border minstrelsy, but Scott, with a critic's scepticism, half suspected the piece was his own composition, and visited the spot to discover the truth. The Ettrick bard led him to his mother, who recited the numberless stanzas of the ballad verse by verse, on which Scott, still

suspicious, asked if it had never been printed. 'Oh, na, sir, it was never prentit i' the world,' replied the dame; 'for my brothers an' me learned it frae auld Andrew Moor; and he learned it, an' mony mae, frae auld Babie Maitland, that was housekeeper to the first laird o' Tushielaw.' From such sources Sir Walter collected the *Minstrelsy of the Scottish Border*, which in 1802 he launched into the world, thus commencing his great career—for some previous translations from the German, though circulated largely by presentation copies, did not reach the public, falling almost dead from the press.

But for his lameness, Scott would, like Cervantes and Camoens, have been a soldier; as it was, his father trained him in the law, hoping that he might one day sit on the Scottish bench. Had the worthy man at this time entered his son's chambers, and seen on desk and chair the precious results of his rural excursions, he might have been as scandalized as the father of Petrarch, when he surveyed the contents of his son's study, and, like him, have committed the hoarded fragments to the flames. But, while he courted the Muses, Scott did not, in the outset, neglect his professional labours. In truth, this Magician of the North, who wrought such wonders by his glamour, was also an athlete. Work to him was a necessity, life, breath. His capacity for labour

was equal to his will; for nature had given him, with his extraordinary mental stature, a physical organization of remarkable calibre, bodily robustness and vigour, great moral faculties, and, above all, a memory of fabulous power. He wrote with surprising facility. But it is not the extent of his compositions, in which he is no longer singular, but their character, that excites our admiration, and secures him a lasting fame. His poems were, as regarded melody, fire, and wild freedom, a revival of the antique minstrelsy, while, without violating this model, they embraced all the graces of the modern lyre. The Gothic flow, the now lurid, now delicate colouring, of the *Lay of the Last Minstrel*, the picturesque blazonry of *Marmion*, the tender beauty of the *Lady of the Lake*, preserve to us all the lineaments of the age of chivalry, as it appeared to knightly and poetic eyes; and, at the same time, captivate by their happy exhibition of character, their chain of incident, and their rapid action. The *Lay of the Last Minstrel* was written at the rate of a canto per week.[8] Two or three stanzas, composed as an experiment, were shown by Sir Walter to some gifted friends, whose literary judgment he was accustomed to consult; but they expressed no opinion on their merits; and, regarding this silence as unfavourable, he threw the precious

[8] Preface to 'Lay of the Last Minstrel.'

fragment in the fire. But his friends had really been deeply struck by the composition; as they walked home, they mutually imparted their admiration to each other; and, after a considerable interval, the truth accidentally reached Scott. Thus encouraged, he returned to the pleasant task, recalled the consumed but unforgotten stanzas, and soon, by the easy fluency of his pen, completed the poem.

The success of the *Lay of the Last Minstrel* justified the encomiums of Scott's literary council, and *Marmion* attained a corresponding popularity; while the *Lady of the Lake*, the highest effort of his muse, so fascinated the public mind, that the number of visitors to the scenes it described affected the post duty, and, from this moment, English tourists became acquainted with the romantic beauty of the Scottish Highlands. But, with his masterpiece, Sir Walter's poetic supremacy was terminated. Not only had the world become familiar with his range, not only did the press teem with successful imitations of his diction, marring its freshness, quaintness, and charm; but, at this point of culmination, England produced a mighty bard, who snatched his crown from the Northern minstrel. Scott hoped to recover his popularity by the *Lord of the Isles*; and, as soon as it was fairly launched, was impatient to learn the result. The printer, fearing to

wound his feelings, met the inquiry by an ominous silence. 'Disappointment!' said Sir Walter, for a moment downcast. 'Then we must try something else.' And he wrote *Waverley!*

Scott himself has called Fielding the father of English fiction; but that honourable title, if it can be claimed by any, more justly belongs to De Foe, who, in *Colonel Jack*, produced the embryo of the modern novel. His *Robinson Crusoe* bears a different impress, and, with the *Gulliver's Travels* of Swift, which invests the fabulous with the same air of truthfulness and probability, stands alone in literature. But neither in the equivocal pages of Fielding, nor the constrained stories of Richardson, do we trace the foreshadowings of that creative power, which, after furnishing master-touches to Smollett, attained its consummation in the *Vicar of Wakefield.* In *Waverley* a new field was opened to the novelist's art. Not only were we permanently delivered from the mire of profligacy and vice, which so disfigures *Tom Jones*, and sullies the fine canvas of *Roderick Random*, *Peregrine Pickle*, and *Ferdinand Count Fathom* —not only were we secured the truthfulness of De Foe, without his vulgarity and coarseness, but we were also presented with a charming tale, possessing all the requisites of incident and action, untarnished by a single indelicacy.

Fielding's knowledge of nature, Smollett's dramatic power, Goldsmith's variation of character and rare constructive skill, were, in this noble story, exhibited together, in a fused, harmonious composition. But *Waverley* diverged yet further from the beaten track, by appropriating to fiction the rich treasures of history. To this fine romance, indeed, and the series it introduced, we may attribute the merit of having first awakened that popular interest in history, which soon became a great movement, and which, by creating a demand for works of information and research, has operated so favourably on literature and human intelligence. The moral influence of Scott's novels was equally marked. It was he who, by his grasp of character, by his profound lessons in life, made fiction a teacher, and raised it into a study, stamping its impressions on the memory with indelible force and unfading effect. Thus was romance, like the Prince of the fairy tale, changed from an unsightly beast into a form of noble proportions—stripped of its shaggy, coarse coat, and clothed in the richest colours of the imagination. It carried us back into the past as if the past lived again, revived the gorgeous pageantry, the incidents, characters, and inner life, all the pomp and circumstance of the days

of chivalry, raising an Abbotsford in every page, and illumining the dark ages like 'fair Melrose,' when 'pale moonlight' fell on its 'shapely stone.' But, more than this, it gave us true delineations of human passion; elevated human feeling, exalted human motive. Vice was no longer tricked out in sentiment, as if it had been virtue; meanness and selfishness were not held up to general admiration; and the noble passion of love, which should transform us all, did not invariably present itself as a base intrigue or low, grovelling amour.

Scott had been drawn to Teutonic literature by the resemblance of its antique ballads to those of Scotland; for though not harassed by border warfare, Germany was for ages torn by intestine strife; and this had awakened similar strains. Moreover, the wilds of the Hartz mountains and the recesses of the Black Forest were associated by popular superstition with traditions of elf and goblin, which imparted to the national minstrelsy the same weird character. But the modern literature of Germany has assumed a different type, and opened itself a new channel, like a stream which, gathering volume with time, diverges from its original bed, and takes another direction. Dreamy, speculative, and metaphysical—fruitful of deep

imaginings, yet given to trifling—at times ponderous, and, in the same breath, weaving words into graceful wreaths of thought, light and ethereal—it always bears the impress of the Teutonic mind. From such elements Schiller has invoked immortal creations. But the monarch, the master-spirit, of German literature, is Goethe. This extraordinary man, whose acquirements were as varied as his gifts, exhibits, in his renowned productions, its highest characteristics, and its utmost capabilities: he presents also, not only in his writings, but in himself—in his life and feelings and actions—an illustration of its defects.

With all their grand flights of philosophy, all their dissection of the feelings, all their perception and appreciation of the beautiful and sublime, the German poets and novelists are, as a school, deficient in genuine sensibility, in the deep, holy tenderness, which makes itself a mission to wounded spirits. Their sentiment is fine, but not practical: it is made for the closet, and not for real life. Goethe contracted an acquaintance with Kestner and his affianced bride, the beautiful Lotte Amtmann. Regardless of the tie which connected her with his friend, he made love to the young lady, professed for her the most devoted attachment, and, when the beauty of his person and his

fascinating conversation had produced an impression, declared he could not live without her. Lotte, however, remained faithful to her first choice, who was not long in discovering Goethe's secret, but was of so generous a nature, that, far from evincing resentment at his perfidy, he sympathised with his distress, and sought to reconcile him to inevitable destiny. He even engaged Lotte to exert her sweet offices for the same object, made Goethe the companion of their walks, and, in short, evinced for the poet the most romantic friendship. Surely any heart and any imagination would have been touched by such conduct. Not so Goethe's. The incident was to him only a spectacle, replete with artistic effects. It served, at a later period, as a web for the novel of *Werter*, in which all the characters reappeared, but, like the story, wore traits not their own. Kestner is portrayed as a miserable dupe, the loving and faithful Lotte is dishonoured; and Goethe himself, after figuring as an Adonis and then as a seducer, reaches the climax of heroism by suicide.

Lotte was not the first enslaver of Goethe's heart. He had previously, when a student at Strasburg, paid his vows to the daughter of a village pastor, the beautiful Frederica of Sesenheim, whom he describes in his autobiography as a model of womanly grace and innocence. Was

it a wonder that the young village belle gave to the handsome and captivating poet her whole thoughts and being? Goethe, dazzled by her loveliness, charmed by her purity, conceived a deep passion for this guileless maiden, obtained the promise of her hand, and left her with the impression that she would soon be his wife. A few months passed away; and the unhappy Frederica, in the midst of her dream of bliss, received a sentimental letter, renouncing her love, and coldly breaking off the engagement.

Goethe had thrown away the treasure of a woman's heart, but he had acquired experience —raw material for fiction. That precious casket, opening every recess to his touch, had shown him all its secrets, all its mechanism, and he had subjected the poor maiden's young throbbing affections to experiment, as an anatomist would an insect. It was by such studies that he qualified for his vocation.

Could this man, so absorbed in self—ideal in theory, but sensual in practice—become a teacher of the human race? The world was to Goethe only a glass, in which the prominent figure was always himself—Narcissus reflected in the pool. His science, though Aristotelian in breadth, was not more practical than his sentiment, and was just as calculated to mislead. He was mighty in art, but what is art without

nature?—what is the marble form, if it bear not the impress of human sympathy? *Werter*, *Faust*, and *Wilhelm Meister*, are indeed wondrous productions; but while they shine with the light of thought and the graces of composition—with all the sorcery of genius—they neither expand the heart nor elevate the understanding. Amidst their dangerous fascinations, we sigh for the simplicity of the *Vicar of Wakefield* and the exquisite pathos of the *Bride of Lammermoor*, and are willing to give a world of ideal extasies for one touch of honest emotion.

France stands apart in European literature, still adhering to classic models, and maintaining the canons of Aristotle. Though so comprehensive and expressive, her language is not adapted to poetic composition; and the grace of La Fontaine, the sparkle of Boileau, even the ardent inspiration of Beranger, fail to overcome completely the effect of monotonous versification. Nor is the structure of French society favourable to the highest development of the drama. Yet such are the taste and genius of the people, such their inherent sense of the sublime and beautiful, so fervid and so glowing the national imagination, that, both in poetry and the drama, French authors contrive to blind us to these great defaults, leading us away by their imagery, invention, and vivacity. Few

countries equal France in the charm and richness of its prose. The *Lettres* of Voiture reflect, with some occasional license, the elegant *badinage* and *riant* spirit of which he was the personal type; and those of Pascal were pronounced by the severe Boileau to be the work of the most perfect writer of his age. The *Maximes* of Rochefoucauld were written at a corrupt epoch; and they naturally catch up its lineaments; but they show us also, in the same clear mirror, much that is applicable to all ages of the world, though too often blurred by a sneering wisdom. All countries are acquainted with Le Sage, whose renowned *Gil Blas* was the first of modern novels, and with the *Nouvelle Héloise* of Rousseau, laid the foundation of that brilliant school of romance, which, in our own day, has been so enriched, and, at the same time, rendered so dangerously fascinating, by Dumas, Hugo, and George Sand. But strange to say, one of the most attractive of the French prose writers was an Irishman, Anthony, Count Hamilton; and his *Mémoires de Grammont*, describing the epicurean court of Charles the Second, embodies the very cream of the language. A contemporary of Fontenelle and Montesquieu, he anticipated the brilliancy of Marmontel, and even exceeded Voltaire in the exquisite tone of his raillery, and the captivating graces of his style.

French tragedy boasts three cardinal authors —Corneille, Racine, and Voltaire. Of the last we have already spoken: Corneille, who has been called *the Shakspeare of France*, is so highly estimated by his countrymen, that his name is seldom mentioned without the prefix of *great*. But his compositions, though possessing noble traits — though pregnant with thought and invention, are, by the side of the Shakspearian dramas, constrained and artificial. Racine exhibits greater fidelity to nature, but his execution, wanting Corneille's judgment, is coarse and defective. Racine studied the age, the saloons, streets, and world of Paris. Corneille threw his glance over the past, and sought to paint mankind. 'Corneille,' says Voltaire, 'formed himself: Louis the Fourteenth, Colbert, Sophocles, and Euripides, all helped to form Racine.'

The element of character would appear indispensable to Comedy, which rests on the exhibition of personal traits, and playful contrasts of disposition. But the great Molière was unable to discover this requisite in French society. His portraitures, therefore—though bold, vigorous, and graphic—represent classes, rather than persons, and have all a conventional air, instead of the English attribute of individuality. But if the Frenchman is less original and distinctive, always moulded according to a set form

and pattern, as if to answer the description of a passport, he is so much the more a type of his age, catching up all its floating ephemera, and embodying its spirit. In this light he appears in Molière's comedies, which by turns take up each caste and vocation, delineate the outward semblance and inner mechanism of society, unlock its breast, and carry us into its secret chambers. *Tartuffe* exhibits these characteristics in their fullest range, lashing the saintly hypocrisy of the time with Shakspearian power, and portraying it in imperishable colours. *Les Précieuses Ridicules* is an example of Molière's lighter vein, directed against a little clique of fashionable wits, who assembled, during the Paris season, in the splendid saloons of the Hotel Rambouillet, and, to mark their separation from the rest of mankind, conversed in a literary slang, originally known only to themselves, but which was no sooner understood to be thus patronised, than it became the rage of all Paris. This tissue of nonsense received the appropriate name of *précieuse*; and the prerogative of comedy to hit folly as it flies was never more effectively exercised than by Molière's *Précieuses Ridicules*, which turned on the aristocratic coterie and its imitators such a battery of wit, such a torrent of derision, that the *précieuse* phraseology, which had begun to

infect every circle, and might have permanently corrupted the language, was from that moment silently dropped.

It is strange that in a country like France, where every order of artistic talent is so highly prized, and so nobly encouraged, the stage for a long time affixed a stigma, which no merit could wipe out. In the whole monarchy, no one was found to countenance Molière but the King—Louis the Fourteenth—whose munificent patronage of literature and art, in every shape, justify his appellation of *Great*. To the last, the Academy refused to open its door to the unfortunate poet, unless he engaged to quit the stage, a condition he resolutely declined, declaring that, whatever his own inclinations, he would not retire from the boards while his company depended on his co-operation for bread. Even his own family looked down upon him; and his father, a Parisian upholsterer, and valet to the King, deemed himself so degraded by the connexion, that, to spare his feelings, the dramatist relinquished the family designation, which was Poquelin, and assumed the immortal name of Molière. On his father's death, he was appointed to succeed him at court, and here he daily sustained the most painful humiliations. On one occasion, being unable to turn the King's bed, as the routine of his duty required,

he asked the assistance of an attendant who was passing; and the court menial resented as an insult such a request from a comedian. Another time, the lacqueys of the household refused to sit down with him at dinner, and raised such an uproar, that it reached the ear of the King. The royal Mecænas immediately invited Molière to his own table, and, summoning the principal courtiers, exclaimed—'My servants do not consider this gentleman fit for their company: you see, I am very happy to have him in mine.' Nor did Louis confine his countenance of Molière to the precincts of the palace: he went in state to visit him at his house, and stood sponsor to one of his children.

Poetry had been popularised in England by Dryden and Pope; and, from the time of Chaucer and Gower, the national Muse had never wanted a laureate. The opening of the nineteenth century witnessed a sudden expansion of this Apollonic succession. The human intellect, acquiring a momentum from the spread of knowledge which had been in progress for two hundred years, had made a sudden bound, burst every restraint, and, with the floodgates of its great deep unlocked, swept over Europe like a Deluge. France had produced Mirabeau, Constant, and Madame de Stael. What might have been the effect of the blaze of light kindled

by the French Revolution, had it not been stamped out by Napoleon's campaigns, it were vain to conjecture; but the reflection it cast on the human mind still remains, and, perhaps, may yet have its mission. In England, the same intellectual activity took another direction: instead of mounting the tribune, and hurling thunders and lightnings over Christendom, it invaded Parnassus. Coleridge, Crabbe, Keats, Milman, Moore, Scott, Shelley, Southey, Wordsworth, the Bard of Hope, and the Bard of Memory, all broke at once, as by common consent, into full song. Never had the world seen such an orchestra of poets. But, in this concert, one wild, headlong, yet melting strain resounded over every other. In this galaxy of mind, there was a bright particular star, floating, like Saturn, in a sea of darkness, but surrounded by a halo of light. The superior lustre of Byron paled all his compeers.

Byron retained the old English love of Italian poesy, which has proved, by its inspiring influence, the Castalian fountain of modern literature; but, like the first masters of our national lyre, he wears no foreign livery, but is essentially self-dependent. His inspiration is drawn from nature, from his own breast, from the human heart. Would that his heart had not been desolated, his swelling breast riven, and, to

his eye, all nature darkened! Not then would the Saxon exile, as he sat on the solitary Greek mountain, looking round on the burrows of hermit and fanatics,

> 'Sigh forth one wish that such had been his lot,
> Then turn to hate a world he had almost forgot.'

And despite its ink of gall, its accents of wrath, sorrow, and bitterness, its sharp notes of anguish, its Job-like wails over a spiritual leprosy, *Childe Harold* is still full of noble feeling, tender, sympathetic, and impassioned, still alive to the beauty, the sweet harmonies of nature, and, amidst awful desolation, still human. The scenes and objects he depicts—the glorious woods, the towering cliffs, the sea calm and musical, raging and mighty, mount and vale and plain, now overcast, now beaming a thousand smiles, are no pre-Adamite visions, but are all gleams of our every-day world, to him so sterile, by him so detested! And though the unhappy wanderer closes his eyes to the fact, they are, moreover, in his delineation, all impressed by the hand of their Maker, disposed by His design, stamped with His image, indelibly marked with His love, beneficence, and power.

This lofty strain expires in *Don Juan*, which, indeed, embraces passages of great beauty, but the pure stream of poesy is poisoned by a voluptuous imagination. But, in other pieces, the

poet speaks out, at intervals, with his pristine might, in tones pure as deep, and with thoughts and imagery that sparkle like gems, or glow like fire. Then he utters a burst of defiance, as if the pent fury of his soul had gathered resistless force, and broke in a thunderclap. The tragedy of *Cain*, which embodies his gloomiest broodings, might have been written by the fratricide himself: it so champions his cause, and breathes his spirit. The guilt-stained, ruined creature turns on his Creator, murmurs, reproaches, and accuses; but does not deny His existence, nor dispute His authority. It is not the scoffer who speaks, but the rebel—standing erect before Omnipotence, blasted but not bent. The poet seems to show us his own nature—himself. Like Cain, he had received every good gift; and like him, too, he revolted against the Giver, turned light into darkness, and then cursed the gloom.

It is not wonderful that such a man was misunderstood in the narrow circles of fashion. He ate biscuits and fruit, and it was considered affectation: he turned down his collar, and was pronounced a fop. But, in point of fact, he preferred simple fare; and, though no sloven, disdained the little artifices of dress. His character, defamed at home, was better understood by the wild semi-barbarous people of the East, by Greeks, Turks, and Arabs; and in such rude

society his influence was unbounded. But everywhere he carried with him an atmosphere of his own, the gloom of his unquiet spirit, which, go where he might, dwell with whom he would, coloured all things. Still he clung to the sublime majesty of nature, and when all else was flat and unprofitable, found relief in the grand and romantic, in the warring elements, the lonely rock-girt shore, and the scenes hallowed by ancient tradition. On such a spot, surrounded by the ruins of olden Greece, and fighting for her fallen name, he finally closed his career. What thoughts occupied him in his last moments we shall never know, but we may hope they were of good import—that they would have told us, had his wishes been carried out, of late, if imperfect, repentance. His valet was summoned to his room by a violent ring of the bell, and found him in a dying condition. 'Fetch me pen and ink,' he said, with faltering accents, 'or I will haunt you hereafter.' Fletcher flew to obey, but his master, to the last so impatient, was already speechless, and, like the worldly Cardinal, died without a sign.

VII.

THE PRESS AND THE LITERATURE OF THE DAY.

LOOKING back from the height of the present age on the progress of the human mind, and noting its successive acquirements, delusions, and triumphs—seeing it in the far-off sky of remote ages like a dubious star, twinkling and flickering, then suffering occultation, but quickly reappearing, growing brighter and larger, till it shines forth a perfect and brilliant orb —when we observe it at one time stationary; at another given over to some fallacy, and, as it were, rent from its sphere, wandering hither and thither in space; then again gravitating round the sun of truth—we at once admit that this is the grandest spectacle, the most sublime revelation, that nature can furnish. At first all appears the result of human means, the effect of diligence or accident; but, as we look closer, it is apparent that, in every advance of the mind, there has been a gradual initiative expansion, a causeway laid beforehand, indicating design and forethought. Man has indeed been an apt student, laborious, persevering, and un-

wearied; but his great faculties, his marvellous gifts, his mighty energies, have only wrought out an appointed purpose. The book of the universe has been spread before him; it has been made to comprehend every problem of moral and physical science; and its mysteries have been revealed by successive lessons. Great discoveries, developed by degrees, have always been accomplished at an opportune moment; their completion has been intrusted to a sure hand; and they have each been the next step in mental advancement. Millions and millions of apples had fallen; yet it was not till Galileo had demonstrated the revolution of the Earth, not till Kepler had proclaimed the laws of the planets, that Newton plucked gravitation from the Tree of Knowledge. From the first, indeed, we are sensible of an overruling influence; and, while we glory in the triumphs of intellect, must recognise the presence of a PRECEPTOR.

But whatever the progress and whatever the conquests of the past, the mass of mankind owes its intellectual advancement chiefly to the present century, which has, as it were, appropriated, and turned to practical use, all the mighty acquirements of previous ages, breaking down the monopoly of learning, and extending its blessings to the whole human race. Reviewing the history

of philosophy and literature, of science, art, discovery and invention, we may feel proud of the part borne by Englishmen in this divine movement; we may rejoice that Englishmen still throng its van, excelling in every acquisition; but let us especially exult that it is in England, under the shadow of those laws which were founded by the great Alfred, that a FREE PRESS daily shines out on the world, diffusing everywhere the light of knowledge and civilization. It is impossible to estimate the effect which the newspaper press has exercised on society—the momentum it has imparted to the human mind. Even had it been a mere vehicle of news, it must have given a large expansion to popular intelligence, always presenting it with new ideas, and, consequently, awakening inquiry and reflection. But when, in fulfilling this vocation, it accompanies the news with comments and expositions, embracing articles on all the topics and all the features of the day—when it plumbs the very depths of society, searches out its wants, and debates the remedies—when it passes in review the acts and opinions of statesmen, the teaching of divines, the operations of raging wars, and the policy of Governments—when it is the mirror of the philosophy, the science, the history of the age, addressing itself, not to a college, not to a class,

but to every rank and grade, in language universally understood, yet wearing every charm of literary composition—and when, moreover, we behold this stupendous power obedient to PUBLIC OPINION, which it has created and sustains, and which ever ranges it on the side of equity and right, of reason and religion,—then we recognise the greatest missionary of the human race, the palladium of our moral and physical progress, which at once ministers to the mind, and enfranchises the body.

It is the newspapers that have communicated to society that general intelligence which is the characteristic of the present day, but which still leaves much to be done. Yet, as a subordinate agent, periodical literature, too, has had a share in the work, and its part daily becomes more important. The capabilities of the periodical press were early discerned by Lord Brougham, whose unremitting endeavours to raise the intellectual condition of the people gave the first impulse to popular education. Under his auspices, the *Penny Magazine*, published at a price universally accessible, carried instruction in an attractive form to the humblest dwelling, and, as it soon attained a weekly circulation of 100,000 copies, produced a marked impression. Its success disclosed the vastness of the field; num-

berless other publications appeared, and obtained an equal share of favour; and, at the present day, the press teems with periodicals of every order and degree.

While disseminating social and political knowledge, the newspaper press has exercised a benign influence on literature. The journals devoted to criticism, as their exclusive vocation, are proverbially governed by cliques; and, in contemplating his functions, the modern Aristarch echoes the sentiment of the Arabian sage —'Oh, that mine enemy would write a book!' With such an *animus*, he casts off responsibility —forgets the dignity of literature, which claims for its humblest professors a courteous, though candid judgment; and, under the mask of a review, pens a cruel libel. The newspaper press has emancipated literature from this tyranny. Had Keats lived in our day, he could not have been 'snuffed out by an article.' These things are now better understood; and the more bitter and more scurrilous the criticism, the more assuredly is it ascribed to personal malice: hence the higher class of literary journals, which have obtained a place in public estimation, are careful not to lend themselves to such attacks; while, on the other hand, the newspapers have rendered them powerless, by awarding, in their

widely-circulated columns, a due share of attention to the books of the day, which thus obtain a publicity undreamt of in past generations.

The issue of reprints of the works of popular authors, at a price almost nominal, must tend to raise the standard of literary taste, familiarising the masses with the noblest compositions, in every department of letters. This is accomplishing the highest aim, while it forms the noblest reward of literature. It is on the great body of the nation, indeed—and not on the syren smiles of courts—that literature must depend. Painting and sculpture command the patronage of Royalty, because they embellish its palaces, and minister to its state. But literature, which enlightens, elevates, and magnifies the people, is rather an object of jealousy to Princes and Governments. It is not unworthy of notice that, during the present reign, not a single mark of honour has been conferred on a literary man. For his services at the Great Exhibition of 1851, Mr. Dilke received a gold medal, instead of the more suitable recognition of the Bath; and in Lord Macaulay, an illustrious literary character has been raised to the peerage; but this promotion was given, not to the author of the *History of England*, but to the popular ex-minister and statesman. The sum

yearly granted by Parliament, indeed, for the encouragement of literature, is largely diverted to other purposes: during some years, not a single pension was awarded, though many sad cases were brought forward; and, in keeping with this neglect, those posts which have traditionally been bestowed on literary men, are now invariably given to political dependents.

The English literature of the day is rich in all the elements which reflect honour on a nation. A common language and kindred sympathies unite it with that of America, which, as regards the future, bids fair to rival it in fruitfulness and grasp. The age has not been so prolific as the last in great poets, but poetry is widely cultivated; and—taking the melodious quire in alphabetical order—is nobly represented by Mrs. Browning, Lord Macaulay, Monckton Milnes, Longfellow, Alexander Smith, and Tennyson, not to mention bards of minor repute. The Muse of History was never so potent; and, among other historians, Alison, the Bishop of St. Asaph, Bancroft, Grote, Hallam, Lord Macaulay, Prescott, and Lord Stanhope, have enriched our language with immortal productions. Biography comprises works by Lord Brougham, Bell, Lord Campbell, Carlyle, Christmas, Hepworth Dixon, Forster, Mrs. Gaskell, Mrs. Green,

Washington Irving, Macilwain, Sortain, Stanley, and Miss Strickland. Sheridan Knowles stands at the head of the dramatists, and the brilliant roll includes, among others, the names of Bourcicault, Bulwer Lytton, Wilkie Collins, Mark Lemon, Marston, Albert Smith, and Tom Taylor. The critics and essayists form a distinguished band, but their writings are not always avowed; and we may often admire, without being able to identify, the compositions of such able writers as the two Dilkes, Hepworth Dixon, Carlyle, Elwyn, James Grant, Leigh and Thornton Hunt, Lucas, Lord Macaulay, Mahony (*Father Prout*), Morley, Reeve, Rintoul, Ruskin, and others hardly inferior. But the great feature of the literature of the day, which gives it character and distinctness, is its novels. Not in the present generation can we appreciate the impression which this flood of fiction is producing on society, on the plastic mind of the young and the imagination of the masses; but, looking at the subjects of which it treats, the feelings, the passions, and the character, and its familiar illustrations of life and manners, we may reasonably conclude that its influence will be immense.

A field so popular is sure to be fully occupied; and, among the novelists, we may men-

tion Ainsworth, Bulwer Lytton, Wilkie Collins, Dickens, Disraeli, Mrs. Gaskell, Hawthorne, Kingsley, Lever, Savage, Mrs. Beecher Stowe, and Thackeray, as those whose works are most widely known. But here we are turning a leaf of the Future; the novels of the day inaugurate a new era in literature; and it will fall to another age, and assuredly to a more competent hand, to write this chapter in the history of the human mind.

THE END.

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